

MORPHOSYNTAX OF VERB MOVEMENT

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MORPHOSYNTAX OF VERB MOVEMENT

A Minimalist Approach to the
Syntax of Dutch



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Preface

This book is a second version of my dissertation *Dutch Syntax, A Minimalist Approach* (University of Groningen, 1993).

In comparison with the first version, two major differences exist.

First, it was agreed with the publisher that this should be a smaller volume, representing only the first part of the dissertation, on verb movement in Dutch. The second part of the dissertation, on other aspects of word order in Dutch, has not been further developed here (except for the brief discussion in chapters III and IV).

Second, the analysis of verb movement in Dutch has been changed considerably. I felt that in the earlier analysis, certain details involving verbal morphology, complementizer morphology, and cliticization had not been analyzed in a satisfactory way. A further rethinking of the relation between syntax and morphology, inspired by Halle and Marantz 1993 and Chomsky 1995, turned out to clarify these issues and, at the same time, to provide a simpler explanation for the absence of verb movement in embedded clauses. The resulting analysis shares many aspects with my earlier work on the subject (cf. Zwart 1991a, 1993d), which now, hopefully, has been given a more solid theoretical basis.

The new title reflects these differences. As for the text, chapters I and II have undergone only minor changes (except that section I.3 of the dissertation version has been completely revised and turned into chapter V), chapter III is a revision of the old chapter III, sections 1-3, chapter IV is based on the old chapter IV, section 2, and chapters V-VII have been written almost entirely from scratch (using some material from the old chapter III, sections 4 and 5).

The demands of coherence have made it necessary to remain silent here on some of the issues touched upon in the dissertation (for example, the nature of locality conditions, the conditions on adjunction, and the proper analysis of VP-fronting, superraising, long distance wh-movement, extraposition, verb clustering, etc.). Needless to say that conclusions *ex silentio* would not be justified.

Acknowledgments

I would like to thank Liliane Haegeman and Ian Roberts, present and former series editors for *Studies in Natural Language and Linguistic Theory*, as well as three anonymous reviewers. Thanks are also due to the students and staff members who attended the 1995-1996 “Advanced Syntax Seminar” at the Department of General Linguistics of the University of Groningen and to the audience attending the Second Central European Summer School in Generative Linguistics, organized in August 1995 at the Palacky University in Olomouc, Czech Republic, where some of this material was discussed. Also thanks to Jan Koster and Eric Hoekstra, and to the many colleagues who commented on earlier versions of this work or sent me unpublished material.

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Groningen, June 7, 1996

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I

INTRODUCTION

1 Where Languages Differ

Language is a function of the human species. It is unclear how this function has developed and in what way its properties are determined by the structure of the human brain. What is clear, however, is that only humans have language.

In this respect, the use of language is comparable to counting and calculating, to staging rituals and creating art, and to contriving deceit. Apparently, only the human brain harbors a computational system of the complexity that is required for performing these functions.¹

If language is a function of the human species, its properties must be largely determined by the properties of the human computational system. This implies that a number of properties of linguistic structures are universal.

In studying the universal properties of language, considerable progress has been made in recent years within the theoretical framework of generative grammar (Chomsky 1957 and much later work). According to

¹ De Waal (1982) reports on various examples of deceit by primates. All these examples involve chimpanzees taking advantage of situations in a deceitful way. I have found no examples of chimpanzees actually setting up situations in order to deceive others. This would presumably require more complicated calculations. The distinction is comparable to the distinction between shaping tools, which chimpanzees do, and shaping tools in order to shape tools, which chimpanzees do not do.

this theory, the computational system creates language particular syntactic representations by deriving them from language independent basic representations. The structure of these representations is simple and universal, hierarchically ordered in a binary branching system. The various representations are related by universal operations, affecting the constituents of the representations by movement, deletion, and insertion.

The basic representations (originally called *deep structures* and later *D-structures*) are considered to be the interface between the computational system and the lexical-conceptual component of the mind. The way the various positions in the basic representations are filled depends on the thematic and aspectual properties of lexical items in a particular language.

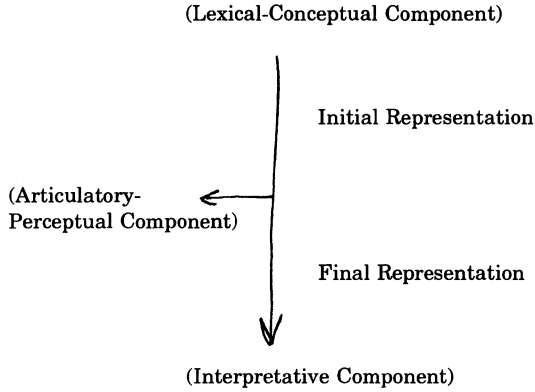
The observable representations (originally called *surface structures* and later *S-structures*) are derived from the basic representations by applying or not applying the universal operations in a language particular way. It is assumed that they are merely intermediate stages in the derivation of a sentence. Eventually, the observable language particular representations will be turned into language independent representations again (called *logical form* or *LF*). These final representations are the interface to another mental component (or set of mental components), which operates independently of the computational system, and takes care of the interpretation of sentences.

Thus, the computational system takes a sentence from an initial state to a final state, through a number of intermediate states. The initial state and the final state are interfaces with other components of the mind. Therefore, the properties of these states are supposed to be universal. The intermediate states, however, are not interfaces with other mental components. Therefore, only at this intermediate stage is language variation to be expected.

At the same time, the intermediate states are the only states which are open to immediate empirical observation. It is assumed that at a certain point in the intermediate stage instructions to the articulatory-perceptual system are issued. These instructions constitute a third interface level (called *phonetic form* or *PF*), and without them sentences could not be spoken or heard. Therefore, sentences that can be empirically observed are always in an intermediate state of their derivation.²

² It may be the case in certain languages that the intermediate state of the derivation differs minimally from or is identical with the initial state or the final state. However, it is crucially assumed that the intermediate state is not necessarily identical to either the initial state or the final state.

- (1) derivation of a sentence



Intermediate states can be more or less advanced in the direction of the final state. There is no reason why the derivation of sentences should take place in rigorously identical ways in all languages. A certain arbitrary variation is expected here. If the theory developed since Chomsky (1957) is correct, it should be possible to describe all syntactic variation between languages as arbitrary differences in the intermediate states of the derivation of the sentences of these languages.³

In this dissertation, certain phenomena in the syntax of Dutch, a Continental West Germanic language of the Indo-Hittite phylum, will be analyzed within the approach to syntactic variation sketched above. The most recent stage of this approach will henceforth be called *the Minimalist Program*, after Chomsky (1993). A fuller exposition of the Minimalist Program of Chomsky (1993) will be presented in section 2 of this introductory chapter, and some extensions of the approach will be proposed in chapter V.

In chapter II, the facts of Dutch which will be particularly relevant throughout this study will be presented first in a separate reference section. In sections 2 and 3, the traditional generative analysis of these phenomena, based on Koster (1975) and Den Besten (1977) will be discussed. In section 4, I will argue that our understanding of the

³ The existence of implicational universals (Greenberg 1963) suggests that not all variation among languages is arbitrary, and that there are marked and unmarked combinations of parameter settings.

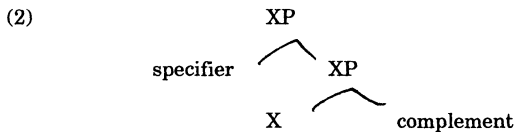
phenomena of Dutch improves greatly when the more restrictive minimalist approach is chosen.

It will turn out that in Dutch, the derivation from the initial state to later states invariably involves movement of syntactic heads and phrases to the left. This is at variance with previous analyses of Dutch, in which various rightward movements had to be assumed. However, this result is welcome, since it suggests that the directionality of the derivation is the same in Dutch and in English. It might even suggest that this directionality is universal, in that the target positions for the movements are always found to the left of already existing structure, and never to the right of it.

There is no *a priori* conceptual reason why movement should always be to the left and never to the right. It follows from well-known conditions that movement is always upward (picturing syntactic representations as inverted tree structures), but there is no reason why the arbitrary differences between languages determining syntactic variation should not include a directionality parameter.

However, as will become clear in chapters III and IV, there are several reasons to conclude that movement is in fact invariably leftward (Kayne 1994). If this is correct, the analysis of Dutch that will be developed in this study is in agreement with this universal mechanism, a marked improvement over the traditional analysis of Dutch within generative grammar.

This, then, has been my major guideline in writing this book: to argue that the phenomena of Dutch can be profitably analyzed as involving leftward movement only. It follows that the structure of all syntactic categories can be represented as in (2), where *specifier* and *X* are the only possible targets for movement of elements in the *complement* of *X*:



In chapter III, I will argue that the structure in (2) applies to the lexical projections in Dutch. This chapter repeats argumentation that has appeared elsewhere, and will therefore be kept brief (cf. Zwart 1994a, to appear a).

In chapter IV, I will argue that the structure in (2) applies to the functional projections in Dutch as well. This will involve a discussion of clitic placement and complementizer agreement.

The analysis of verb movement to be presented in chapters VI and VII presents further argumentation in support of the structure in (2). These

chapters are preceded by a theoretical discussion in chapter V, in which much of the minimalist approach as presented in section I.2 is fleshed out in considerable more detail. This chapter adopts a number of proposals made in Chomsky (1995) and other recent literature (such as Zwart 1993b, Halle and Marantz 1993, and Kayne 1994).

Chapter VI then analyses the pattern of positions occupied by the inflected verb in main and embedded clauses in Dutch. This analysis applies the theoretical apparatus introduced in chapter V, and differs to a significant extent from the analysis in Zwart (1993b).

Chapter VII discusses inversion constructions in Dutch (topicalization and *wh*-movement), as well as the related issues of complementizer agreement and clitic placement.

The major conclusion of this study is that Dutch is a head initial language throughout. A second conclusion is that a strict application of the minimalist principles leads to a simple and elegant analysis of the complicated functional domain in Dutch. The analysis presented therefore provides empirical support for the universality of the structure of linguistic representations as well as of the operations affecting these representations.

2 The Minimalist Program (Chomsky 1993)

In this study, the phenomena of Dutch syntax will be analyzed in a way that is at some points sharply diverging from the traditional analysis, to be discussed in chapter II.

To some extent, the novel character of the analysis is a direct consequence of the theoretical framework adopted. This theoretical framework is the so called *Minimalist Program*, after Chomsky (1993,

1995).⁴ It is the latest developmental stage of the theory of (Transformational) Generative Grammar (Chomsky 1957).⁵

As in earlier stages of the theory, the Minimalist Program considers grammar to be a *derivational* system. A sentence is first built up in a basic form, then modified through processes of movement, deletion, and insertion, until it reaches a final form which may serve as input to other components of the cognitive system. However, unlike earlier stages of the theory, the mechanism creating the basic representation and the mechanism performing the other operations (movement, insertion, deletion) are the same (it is the mechanism of *Generalized Transformation*).

As in earlier stages of the theory, movement takes place because elements must be *formally licensed*. Unlike earlier stages of the theory, however, the need for formal licensing is the *only* reason for movement to take place. In addition, it is assumed that elements can *never* be formally licensed in a position they occupy in the initial representation.

As in earlier stages of the theory, movement may take place before or after the point in the derivation at which the instructions to the PF-system (the articulatory-perceptual system) are issued. Unlike earlier stages, however, it is now assumed that movement preferably takes place *after* this particular point in the derivation, so that overt movement is, in a way, the marked option.

As before, the amount of overt movement may differ from language to language. But, unlike before, the presence or absence of overt movement is the *only* instance of parametric variation in syntax among languages (excluding, for instance, a parameter that stipulates the direction of government, or that formulates language particular locality conditions).

In the next four subsections, the key aspects of the Minimalist Program are briefly sketched.

⁴ The Minimalist Program was introduced by Chomsky in his MIT Fall term class lectures of 1991, and has been developed since in Chomsky's lectures of 1993, 1994, and 1995, as well as in work by others. Chomsky (1995) is the most recent presentation of the minimalist framework to date. In this introductory chapter, we will present the Minimalist Program in its original form, following Chomsky (1993). This will suffice as background for chapters II-IV. In chapter V, some of the more recent developments will be incorporated. The analysis of verb movement proposed in chapters VI and VII makes use of this more recent version of the Minimalist Program.

⁵ Earlier stages that can be distinguished are *the Standard Theory* (Chomsky 1965), *the Extended Standard Theory* (Chomsky 1970; Jackendoff 1972), *the Revised Extended Standard Theory* (Chomsky 1973, 1977; Chomsky and Lasnik 1977; Chomsky 1980), *the Government and Binding Theory* or *the Principles and Parameters Approach* (Chomsky 1981, 1982, 1986a, 1986b, 1991; Chomsky and Lasnik 1993).

2.1 Building Up Trees: Generalized Transformation

Representations are built up in a bottom-up fashion by a mechanism called *Generalized Transformation*. A Generalized Transformation combines two phrase markers. Two phrase markers are combined by expanding one of the two phrase markers (the ‘target phrase marker’) so as to include an empty position. This expansion takes place by adding to the target phrase marker a *projection* of the target phrase marker. This projection is binary branching and has two daughters: the target phrase marker and an empty position. This empty position is substituted for by the other phrase marker. The whole process, illustrated in (3), yields two sister phrase markers connected in a binary branching subtree.⁶

- (3)
- I. *Two independent phrase markers*
- | | |
|-------------|-------------|
| V | NP |
| <i>kiss</i> | <i>Mary</i> |
- II. *Expansion of the target phrase marker*
- | | |
|---|-------------|
| $\begin{array}{c} V' \\ \swarrow \quad \searrow \\ V \quad e \end{array}$ | NP |
| <i>kiss</i> | <i>Mary</i> |
- III. *Substitution of the empty position in the projection of the target phrase marker*
- | | |
|--|-------------|
| $\begin{array}{c} V' \\ \swarrow \quad \searrow \\ V \quad NP \end{array}$ | |
| <i>kiss</i> | <i>Mary</i> |

The projection of the target phrase marker has the same categorial features as the target phrase marker. The phrase level of the projection of the target phrase marker is determined by the rules of X-bar Theory (Chomsky 1986b, going back to Chomsky 1970, Jackendoff 1977).

These rules specify that the ultimate projection of an X (or X°, or *head*) will be an XP (or X", or *maximal projection*), and that there is an

⁶ Binary branching is a result of this particular formulation of the Generalized Transformation mechanism. The attractiveness of binary branching has been argued for several times in the literature (Kayne 1984, E. Hoekstra 1991).

intermediate projection X' (*X-bar*) which is the immediate projection of X . This is illustrated in the following two rewrite rules:⁷

- (4)
- | | | | | |
|----|------|---------------|--------|-----------|
| a. | XP | \rightarrow | (ZP) | X' |
| b. | X' | \rightarrow | (YP) | X° |

The order of the elements to the right of the arrows in (4) is irrelevant. The sister of X° , YP in (4b), is called *complement*; the sister of X' , ZP in (4a), is called *specifier*.⁸

The Generalized Transformation illustrated in (3) combines two independent phrase markers. Therefore, it is called a *binary operation*.⁹ Lexical insertion is a typical binary operation.

It is also possible that the empty element created by expanding the target phrase marker is substituted for by an element *contained in* the target phrase marker. This would be called a *singular operation*.¹⁰

Consider a standard case of raising to subject, as in *John arrived*. In this type of construction, *John* is generated as a complement of *arrived*, and moves to the subject position at some point in the derivation (Burzio 1981, Chomsky 1981).

A binary operation of the Generalized Transformation will first merge *arrived* and *John*, as in (5).

- (5)
- $$\begin{array}{c}
 V' \\
 \swarrow \quad \searrow \\
 V \qquad \quad NP \\
 \textit{arrived} \qquad \textit{John}
 \end{array}$$

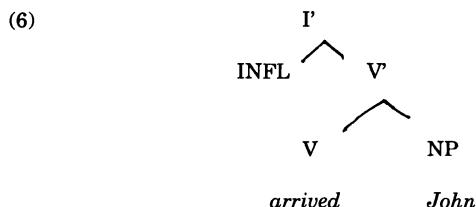
Next, another binary operation will merge the phrase marker in (5) with a functional head in which the tense and agreement features are represented (called *INFL*, for the time being).

⁷ Rewrite rules are used to construct tree structures in a top-down fashion. A rule like $A \rightarrow B C$ yields a binary branching tree in which B and C are each other's sisters and A 's daughters.

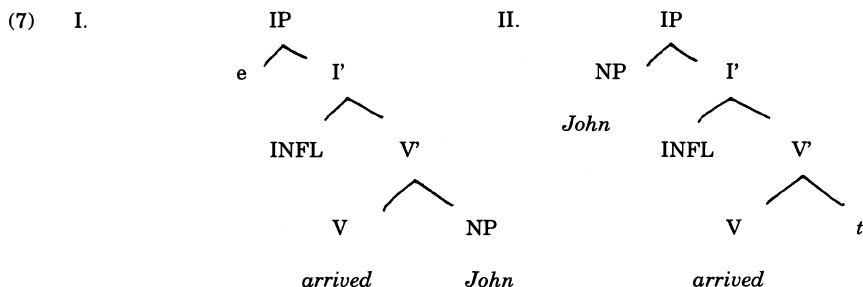
⁸ Stuurman (1985), Hellan (1991), and E. Hoekstra (1991) propose modified versions of X-bar theory, in which X' is written as XP , so that XP is the only type of projection level left. See chapter V for incorporation of this "two level" X-bar theory into the Minimalist Program.

⁹ Chomsky (1995) calls the binary operation "Merge".

¹⁰ "Move" in the terminology of Chomsky (1995).



For reasons that do not concern us here, *John* has to move out of the projection of V to a position in the domain of INFL. To this end, I' is expanded in such a way that there will be an empty element in the position of sister of I', to be substituted for immediately by *John*.



In (7), the target phrase marker is expanded by adding a former subpart of the target phrase marker. No new phrase marker is added to the construction. Therefore this is called a *singular operation*. All movement operations that were subsumed under the term *Move α* in the Government and Binding framework are now redefined as singular operations of the Generalized Transformation.¹¹

¹¹ A note on terminology is in order here. In the earliest stages of Transformational Grammar, a distinction was made between *singular transformations* and *generalized transformations*. The former operate on a single phrase marker, are ordered, and do not introduce meaning-bearing elements; the latter embed a constituent phrase marker into a matrix phrase marker, are unordered, and do introduce meaning-bearing elements (Katz and Postal 1964, Palmatier 1972, and references cited there). In Chomsky (1993:22), singular transformations are a subcase of generalized transformations. The two operations work in the same way, the only difference being the origin of the phrase marker substituting for the empty position (the formal identity of generalized transformations and singular transformations was already pointed out in Chomsky 1966:52, cf. also Chomsky 1961:134 note 35). Generalized transformations, especially those governing sentence embedding, have been replaced by the rewrite rules of the base component (Chomsky 1966:65, 1965 chapter 3). Singular transformations gradually developed into Move α (Chomsky 1981).

Chomsky (1993) notes that the expansion of a target phrase marker, the introduction of an empty element, and the substitution of that empty element by a second phrase marker, are all part of one indivisible process. The intermediate stages, represented separately above for expository reasons, are never open to inspection as phenomena of language.

Crucially, the Generalized Transformation always adds material *external* to existing phrase markers. It is not possible, Chomsky (1993) suggests, to insert material *inside* a phrase marker.¹²

2.2 Licensing Elements: Morphological Feature Checking

A classic distinction exists in linguistic theory between *contentful elements* and *functional elements*. Word stems are contentful elements, whereas inflectional morphemes are functional elements. Functional elements express *agreement relations* between constituents.

In the Minimalist Program, it is assumed that agreement relations are highly local. A maximal projection α agrees with a head β only if α is a specifier of β . A head α agrees with a head β only if α is adjoined to β .¹³ Moreover, β must be a *functional* head.

In the Government and Binding framework, the distinction between contentful (or *lexical*) elements and functional elements gradually took the following shape.¹⁴ Functional elements are generated as heads of independent phrasal projections. These functional projections are situated outside and on top of the lexical projections. Thus, the inflectional morphemes for tense, person, number, etc., are generated separately from the lexical stems. The stems have to be united with the inflectional morphemes through a process of movement and adjunction.

This yields a sentence structure as illustrated in Figure 1:

¹² This, then, is the modern version of the *Strict Cycle Condition* (Chomsky 1973), also referred to as the *extension condition* in Chomsky (1993). Chomsky (1993) restricts the extension condition to substitution in overt syntax, thus allowing for countercyclic head movement (a case of adjunction) and countercyclic substitution at LF (needed for movement of the object to Spec,AgrOP in languages like English).

¹³ The locality requirements are further restricted in Zwart (1992a), where it is argued that an element α agrees with an element β only if α adjoins to β . This implies that in a specifier-head agreement relation, the specifier does not agree with the head, but with the immediate projection of a head. See below, section V.3.1..

¹⁴ The developments in the Government and Binding period are marked by Stowell (1981) and Pesetsky (1982), on the structure of IP, Chomsky (1986b) on the structure of CP, Kayne (1989), Pollock (1989) and Chomsky (1991) on the division of IP into AgrP and TP, and Brame (1982), Szabolcsi (1984) and Abney (1987) on the functional domain of noun phrases, DP. See Fukui and Speas (1986) on the relevance of functional projections for parametrization.

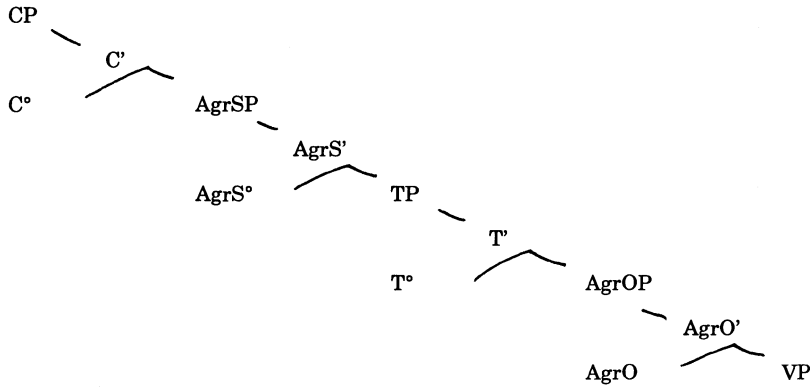


FIGURE 1

In figure 1, *C* stands for the complementizer position, *T* for tense, and *AgrS* and *AgrO* for subject and object agreement morphology, respectively. These functional heads project phrases in accordance with the rules of X-bar Theory given in (2) of section 2.1. *AgrOP*, *TP*, *AgrSP* and *CP* together constitute the functional domain of a syntactic structure, *VP* constitutes the lexical domain.

In the Minimalist Program, this analysis is maintained in a simplified form. The major difference concerns the content of the lexical and functional heads. In the Minimalist Program, lexical heads are occupied by fully inflected forms (stems plus inflectional affixes). These forms carry a *feature* associated with the inflectional affix. The functional heads are likewise occupied by features associated with inflectional morphology (instead of by the inflectional morphology itself).¹⁵

¹⁵ The assumption that abstract features associated with inflectional morphology are of greater syntactic significance than the overt morphology itself is already a crucial part of the Case Theory module of the Government and Binding framework. This Case Theory refers to *abstract Case features* which are associated with nouns and noun phrases regardless of the morphological manifestation of Case on these nouns and noun phrases (Vergnaud 1979, Chomsky 1981). This theory of abstract Case is subsumed under the Minimalist Program. As a result, the inflectional features associated with Case are assumed to be present on lexical categories, even if there is no overt morphological manifestation of Case on these categories. Conversely, overt inflectional morphology does force us to assume the presence of a corresponding functional head.

The features associated with the inflectional morphology of lexical categories have to *match* the features represented in the functional heads. Matching is checked under the same strict locality requirements as agreement (in fact, agreement is a subcase of feature matching). Therefore, the requirement that morphological features match triggers movement of lexical elements to positions in the functional domain. *Licensing* inflected elements consists in moving the inflected elements to positions in the functional domain, and checking whether the features associated with the inflection match the features represented in the functional heads.

Recall that movement is an application of the Generalized Transformation mechanism. The structure in figure 1, therefore, is completely built up in the process of moving elements from the lexical domain to positions in which their features can be checked (which yields the functional domain). There is no top-down rule system to ensure that syntactic structures are always like figure 1. The structure in figure 1 is the result of the fact that inflected elements have to be licensed outside of the lexical domain.

The inflectional features relevant to the phenomena of verb movement and noun phrase movement are tense, agreement, and Case.¹⁶ It is very well possible that other features exist, but these three appear to be indispensable features of sentence structure.¹⁷

The features represented in the functional heads trigger both head movement (to the functional heads) and XP-movement (to the specifier positions of the functional heads). For this reason, the Minimalist Program distinguishes two types of features represented in the functional heads: *N-features* and *V-features*. N-features are relevant for checking features of XPs (maximal projections), V-features are relevant for checking features of heads.¹⁸

¹⁶ The exact difference between Case and agreement is not very clear in this system. It is assumed that the specifiers of AgrS and AgrO are the positions for checking Nominative and Accusative Case features, respectively. This suggests that Case and agreement are identical concepts. However, Chomsky (1993:30) suggests that, while Nominative and Accusative Case features are checked in the specifier positions of AgrS and AgrO, respectively, the features relevant for checking Case do not reside in AgrS and AgrO, but in T and V, respectively. See chapter V, footnote 17.

¹⁷ Iatridou (1990) contends that the approach to inflectional morphology sketched here leads to an explosion of functional categories, assuming that every functional category discovered in studying the languages of the world should be present in the grammar of every single language of the world. I will take a moderate position here, assuming that a small number of inflectional features are present in all languages of the world, whereas a larger number may be relevant to specific languages only. What is universal, however, is the way inflectional features determine word order.

¹⁸ Chomsky (1993) uses the term *NP-feature* for what I call *N-feature* here.

The derivation of a sentence consists in these two processes only: insertion of elements from the Lexicon (by a binary operation, or Merge), and movement of elements to the functional domain (by a singular operation, or Move).

2.3 Restrictions: Economy, Procrastination, Greed

The derivation of a sentence is subject to general conditions of *economy*. The derivation should take as few steps as possible (*economy of derivation*), and the resulting representations should have as few symbols as possible (*economy of representation*) (Chomsky 1991).

One consequence of economy of derivation is that movement always takes the shortest route.¹⁹ Another consequence is that any movement that is not triggered by a well-established requirement of morphological feature checking is excluded.²⁰ Thus, elements, once licensed, are doomed to inertness.

Economy of representation excludes the presence of irrelevant material at any given level of representation. One instantiation of economy of representation is the principle of *Full Interpretation*, which excludes the presence of uninterpretable material at the interface representations.²¹

The derivation of a sentence is a finite process. At a certain point, the process yields a representation that will function as the output of the grammatical system. This representation will serve as the input to other parts of the cognitive system, for instance those having to do with interpretation. The principle of Full Interpretation requires that every element of an output representation should provide a meaningful input to

¹⁹ *Shortness* can be interpreted in two ways, viz. as involving the smallest number of steps and as involving the shortest steps. These two interpretations appear to be contradictory (cf. Chomsky 1993:15). I have argued in Zwart (1996a) that the interpretation of economy of derivation as involving the smallest number of steps is the only correct one.

²⁰ The modification 'well-established' is needed to exclude movements triggered by 'ghost features', whose presence is only motivated in order to account for a specific word order phenomenon.

²¹ This principle was first introduced in Chomsky (1986a:98), in the context of a discussion of the relation between Case assignment and theta-role assignment. The idea was that noun phrases must be assigned Case at S-structure, because only then would they be visible for theta-role assignment at LF. Since only noun phrases that carry a theta-role are interpretable at the interface of LF and other components of the cognitive system, the principle of Full Interpretation requires Case assignment at S-structure. This concept has been slightly changed in the Minimalist Program. Case checking eliminates features that cannot be interpreted at the interfaces. Without Case checking, Full Interpretation (and economy of representation) is violated, since unchecked features are uninterpretable.

the relevant other parts of the cognitive system. Only these elements are considered to be *legitimate objects* at the interface level.

The features associated with inflectional morphology are considered to be relevant for syntax only. They play a crucial part in the licensing of inflected elements. However, these features are of no direct relevance to components of the cognitive system external to the grammatical component. In other words, the features associated with inflectional morphology are not legitimate objects at the interface level: they cannot be a part of the final representation that is to serve as input to other components of the cognitive system.²²

For this reason, these features have to be *eliminated* during the derivation. It is assumed that matching features are eliminated as soon as they are checked.

Therefore, a minimal number of derivational steps is required to achieve a minimal representation at the interface of the grammatical component and other components of the cognitive system.

Two other principles are directly derived from economy of derivation.

First, picture the derivation as a step-wise procedure. At each step, economy of derivation will allow only a minimum of activity. Eventually, movements will have to take place, but economy of derivation dictates that these activities take place as late in the derivation as possible. This can be formulated as a separate principle, *Procrastinate* (Chomsky 1993:30).

Second, movement is triggered by the need to license inflected elements (more exactly, by the need to check off the abstract features associated with inflected elements). Elements that are already licensed, or that do not need licensing, are neither forced nor allowed to move. It follows that such elements can never be forced to move in order to assist in the licensing of another element. The trigger for movement always works directly on the element to be licensed. The principle that movement only to help out other elements is disallowed is called *Greed* (Chomsky 1993:33).²³

2.4 Parametric Variation: Strength of Features

According to the Minimalist Program, the derivation of a sentence yields interface representations which are subject to the principle of Full

²² In Chomsky (1995), a distinction is made between features that are interpretable at the interfaces and features that are not. The interpretable features are not eliminated after checking. Consequently, the need to eliminate features cannot be the factor driving the movements in this approach. We will return to this in chapter V, section 3.

²³ The principle of Greed is slightly modified in Chomsky (1995). See section V.3.2.2 below.

Interpretation: they must consist of legitimate objects only. If they do, the derivation is said to *converge*. If not, the derivation is said to *crash*.

The other components of the cognitive system that the grammatical component interacts with are *performance systems*, having to do with, roughly, speech and interpretation. Therefore, there are two types of performance systems: articulatory-perceptual and conceptual-intentional (Chomsky 1993:2). In accordance with this, the grammatical system will yield *two* interface representations, each consisting of instructions for one of the two performance systems. These interface representations are called *PF* (for the articulatory-perceptual performance system) and *LF* (for the conceptual-intentional performance system).

On the assumption that the conceptual-intentional performance system is identical in all humans, the interface representation called LF must be largely identical in all languages. In contrast, the interface representation called PF varies from language to language, as can easily be observed.²⁴ It follows that the two interface levels PF and LF are not identical.

In the Minimalist Program, it is assumed that the LF interface level is the final stage of a derivation, and that the PF interface level is the reflection of an intermediate stage in the derivation. That is, at a certain point in the derivation, instructions to the articulatory-perceptual system will be issued. This point is called *Spell-Out*. The part of the derivation before Spell-Out is called *overt syntax*, the part of the derivation after Spell-Out is called *covert syntax*.²⁵

The problem of comparative linguistics is to find out how and why languages differ in their overt syntax. Recall that the principle of Procrastination dictates that movements take place as late in the derivation as possible. This principle, then, has to be violated to some extent in the grammar of certain, perhaps all, languages. The question is, Why?

The only possible answer to this question is that Procrastination must be violated to ensure convergence at the PF interface level. In other words, certain elements that would count as illegitimate objects at PF

²⁴ The point to be made here is actually more subtle. What differs in the PF representation in the various languages is the order of words and phonemes in a string. The way the corresponding instructions are handled by the articulatory-perceptual performance system is just as universal as the way the LF instructions are handled by the conceptual-intentional performance system. The difference between the two interface levels is that word order and/or hierarchical order affects interpretation in the conceptual-intentional system, but not in the articulatory-perceptual system. Therefore, word order must be universal at the LF interface, but not at the PF interface.

²⁵ There are two significant differences between overt syntax and covert syntax: binary transformations are only allowed in overt syntax (Chomsky 1993:22), and the Strict Cycle Condition does not apply in covert syntax (Chomsky 1993:24).

have to be eliminated in overt syntax. Sticking to the minimalist assumptions made above, it must be the case that certain inflectional features count as illegitimate objects at PF. These features, then, have to be checked and eliminated in overt syntax, through a process of movement of heads and phrases to positions in the functional domain.

The surprising aspect of this mechanism is that *not all* inflectional features count as illegitimate objects at PF. If that were the case, overt syntax would be largely, perhaps completely identical in all languages of the world. As we know, there are very distinct differences in word order between even so closely related languages as English and French (Pollock 1989).

This, then, appears to be the locus of parametrization between languages: an inflectional feature may or may not be *visible as an illegitimate object* at PF. Those that are visible as illegitimate objects at PF will have to be eliminated in overt syntax. Those that are not visible at PF will *not* be eliminated in overt syntax, by the principle of Procrastination. Features that are *visible* (thus: potentially harmful) at PF are called *strong*; features that are *invisible* (thus: harmless) at PF are called *weak*.²⁶

A minimal assumption is that the strong/weak distinction is the *only* instance of parametric variation among languages. This implies that parametric variation is restricted to functional categories (Fukui and Speas 1986). It furthermore implies that there are no directionality parameters, such as directionality of government.²⁷ The latter implication is supported empirically by Kayne (1994), who argues that movement is always leftward.

This concludes the presentation of the minimalist approach to syntax, as put forward in Chomsky (1993). I will adopt the general tenets of this approach throughout this study.²⁸ However, many parts of the approach that are left unresolved in Chomsky (1993) have been further developed or modified in later work (cf. Chomsky 1995). At the same time, it has become clear that certain other recent developments can be advantageously combined with the minimalist approach (E. Hoekstra 1991, Halle and Marantz 1993, Kayne 1994, Epstein 1995). In chapter V

²⁶ See Koster (1986) for earlier use of this terminology in connection with word order variation.

²⁷ In fact, *government* has no formal status in the Minimalist Program. For example, Case assignment is reduced to feature checking in a specifier-head configuration.

²⁸ Certain crucial aspects of the analyses presented in this book antedate the emergence of the Minimalist Program, however (cf. Zwart 1991a).

I will return to these further developments, treating the minimalist approach in more detail in order to pave the way for the analysis of verb movement in Dutch presented in chapter VI-VII. These introductory pages may suffice to provide the background for the critical discussion of previous treatments of the verb movement phenomena of Dutch in chapters II-IV.

II

INTRODUCTION TO THE SYNTAX OF DUTCH

This chapter contains four sections. Section 1 is intended as a reference section. It contains the basic facts of Dutch inflectional morphology and syntax that are discussed in this book. Section 2 reviews the traditional analysis of these facts within the generative framework, based on Koster (1975) and Den Besten (1977). Section 3 discusses the problematic aspects of the traditional analysis on its own terms, i.e. as an implementation of the so-called *Government and Binding* approach.¹ In section 4, the consequences of the Minimalist Program for the analysis of Dutch syntax are briefly sketched; it contains a review of the traditional analysis, this time on minimalist terms, and the first outline of a minimalist approach to the syntax of Dutch.

1. Phenomena of Dutch Syntax

1.1 Inflectional Morphology

1.1.1 Verbal Elements

Dutch has an inflectional paradigm for the formation of the present and past tense verb forms. All other tenses are formed periphrastically.

The present tense is formed as in (1), the past tense as in (2):

¹ See chapter I, note 5.

(1) *Present tense*

1SG	kus	1PL	kussen	'kiss'
2SG	kust, kus	2PL	kussen	
3SG	kust	3PL	kussen	

(2) *Past tense²*

1SG	kuste	1PL	kusten	'kiss'
2SG	kuste	2PL	kusten	
3SG	kuste	3PL	kusten	

The present tense 2SG verb form is *kust* when the subject precedes the verb, and *kus* when the verb precedes the subject. This is the case in topicalizations and wh-constructions, for which see section 1.3.

The imperative verb forms are *kus* for the singular and *kust* for the plural.³

The non-tensed verb forms of Dutch are the bare infinitive, the infinitive with *te*, the present participle, and the past participle.⁴

(3) *Non-tensed verb forms*

Bare Infinitive:	kussen
Infinitive with <i>te</i> :	te kussen
Present Participle:	kussend
Past Participle:	gekust

The future tense is formed by the auxiliary *zullen* 'shall, will' in combination with a bare infinitive:

(4)	Jan	zal	Marie	kussen
	John	will	Mary	kiss
	"John will kiss Mary."			

The perfect tense is formed by a combination of one of the auxiliaries *hebben* 'have' and *zijn* 'be' and a past participle:⁵

² The *-t-* in the past tense inflection is a *-d-* if the verbal stem ends in a vowel or a voiced consonant.

³ In addition, there are subjunctive verb forms, *kusse* for the SG and *kussen* for the PL. These are hardly ever used.

⁴ On the status of *te*, see IV.1.3. Present participles are inflected like adjectives.

⁵ More complex tenses are created by changing the tense of the auxiliaries, either inflectionally, in the case of the pluperfect (*had gekust* 'had kissed') and the past future (*zou kussen* 'would kiss'), or periphrastically, in the case of the future perfect (*gekust zal hebben* 'will have kissed'), or by a combination of inflectional and periphrastic techniques, as in the past future perfect (*gekust zou hebben* 'would have kissed').

- (5) a. **Jan heeft Marie gekust**
 John has Mary kissed
 "John kissed Mary."
 b. **Marie is door Jan gekust**
 Mary is by John kissed
 "Mary has been kissed by John."

The bare infinitive can be nominalized, as in (6), and is also used in tenseless main clauses (7) (cf. Koster 1984):

- (6) **Dat alsmaar Marie kussen is leuk**
 that all the time Mary kiss is fun
 "This kissing Mary all the time is fun."
 (7) **Jan Marie kussen? Dat nooit!**
 John Mary kiss That never
 "John kiss Mary? Never!"

The bare infinitive and the infinitive with *te* are used in infinitival complement clauses. In adjunct clauses only the infinitive with *te* is used.

The present participle is used only as a secondary predicate or as an adjective.

1.1.2 Nominal Elements

Nouns in Dutch are inflected for *number* (singular and plural). The plural is formed by adding *-en*, pronounced *-e* in the South and West of the country (*-e* a schwa), or *-s* to the stem.⁶

Nouns in Dutch have no Case inflection, with the exception of pronouns (see section 1.1.5).

Gender agreement is marked on the adjective, only when used attributively in singular indefinite noun phrases. The masculine/feminine agreement suffix is *-e*, the neuter suffix is zero.⁷ In the plural, and in definite noun phrases, the adjective invariably has a *-e* suffix. Predicative adjectives show no agreement with the noun.

Definite determiners are *de* (plural, and masculine/feminine singular) and *het* (neuter singular). The plural indefinite determiner is zero, the

⁶ In the variety of Standard Dutch that is spoken in the North and East of the Netherlands, the plural suffix is pronounced as *-en*. In the dialects of these regions, the plural suffix actually appears to be a syllabic *-n*.

⁷ See Kester (1996) on other forms of adjectival agreement in Dutch.

singular indefinite determiner is *een*, apparently a weak form of the numeral 'one'.⁸

1.2 Main Clauses and Embedded Clauses

1.2.1 The Position of the Verb

The neutral order of main clauses in Dutch containing a finite verb is Subject-Verb-Object (SVO):

- (8) a. **Jan** **kust** **Marie**
 John kisses Mary
 "John kisses Mary"
 b. * **Jan** **Marie** **kust**
 John Mary kisses

For non-neutral word orders, see section 1.3.

The word order of main clauses containing no finite verb is SOV:⁹

- (9) a. * **Jan** **kussen** **Marie**
 John kiss Mary
 b. **Jan** **Marie** **kussen**
 John Mary kiss
 "John kiss Mary."

The neutral word order of main clauses containing both a finite verb and a non-finite verb is SVOV, with the non-finite verb following the object. In (10), the finite verb is an auxiliary and the non-finite verb is a past participle. In (11)-(12), the finite verb takes an infinitival complement clause, and the non-finite verb is an infinitive:

⁸ Zwarts (1992:178) argues that the indefinite determiner is an adjective, like the numeral *één* 'one'. In that case, the indefinite determiner would be zero in both the singular and the plural. In connection with this, note that *een* is inflected as an adjective in certain dialects, e.g. Brabantish (*'ne goeie mens* 'a good man' vs. *'n goei pèrt* 'a good horse').

⁹ Nonfinite main clauses are used in narration and in certain questions. In the first case, modal particles like *maar* 'but, just', expressing habituality or iteration, are often required. Acceptability also increases when the object is indefinite. A perfect example is: *En hij maar huizen kopen* (and he just houses buy), "And he just goes/went on buying houses". In the second case, a certain intonation expressing denial or disapproval is required, as in English "What? Me worry?" or "John kiss Mary? Over my dead body!". The sentences in the text express the correct word order generalizations, if not correct usage.

- (10) a. **Jan** **heeft** **Marie** **gekust**
 John has Mary kissed
 "John (has) kissed Mary."
 b. * **Jan** **heeft** **gekust** **Marie**
 John has kissed Mary
 c. * **Jan** **Marie** **heeft** **gekust**
 John Mary has kissed
 d. * **Jan** **Marie** **gekust** **heeft**
 John Mary kissed has
- (11) a. **Jan** **wil** **Marie** **kussen**
 John wants Mary kiss
 "John wants to kiss Mary."
 b. * **Jan** **wil** **kussen** **Marie**
 John wants kiss Mary
 c. * **Jan** **Marie** **wil** **kussen**
 John Mary wants kiss
 d. * **Jan** **Marie** **kussen** **wil**
 John Mary kiss wants
- (12) a. **Jan** **probeert** **Marie** **te kussen**
 John tries Mary to kiss
 "John tries to kiss Mary."
 b. * **Jan** **probeert** **te kussen** **Marie**
 John tries to kiss Mary
 c. * **Jan** **Marie** **probeert** **te kussen**
 John Mary tries to kiss
 d. * **Jan** **Marie** **te kussen** **probeert**
 John Mary to kiss tries

When a main clause contains one finite verb and more than one non-finite verb, the non-finite verbs form a cluster. This cluster occupies the same position as the non-finite verb in (10)-(12), to the effect that the object of the most deeply embedded verb appears to the left of the cluster as a whole.¹⁰ The finite verb again precedes the object:

- (13) a. **Jan** **heeft** **Marie** **willen** **kussen**
 John has Mary want kiss
 "John (has) wanted to kiss Mary."
 b. * **Jan** **heeft** **willen** **Marie** **kussen**
 John has wanted Mary kiss

In each of the grammatical sentences in (8)-(13), the finite verb is strictly adjacent to the subject, as is illustrated for (8a) in (14):

¹⁰ The syntax of the verb clusters in Dutch is considerably more complicated. A more detailed exposition will be given in chapter III. See Evers (1975) for seminal work. For recent studies, see Rutten (1991), Broekhuis (1992), Haegeman (1995), Zwart (1995a), Zwart (to appear b) and references cited there.

1.2.2 Complementizers and Complementizer Agreement

Complement clauses containing a finite verb must be introduced by one of the two complementizers *of* and *dat*, or by the combination *ofdat* (cf. De Rooij 1965a, Hoekstra and Zwart 1994):¹³

- (19) a. **Piet zei dat/*of/*ofdat Jan Marie kuste**
 Pete said that/if/ifthat John Mary kissed
 "Pete said that John kissed Mary."
 b. **Piet vroeg of/ofdat/*dat Jan Marie kuste**
 Pete asked if/ifthat/that John Mary kissed
 "Pete asked whether John kissed Mary."

The choice between *of*, *dat*, and *ofdat* is determined by properties of the verb selecting the complement clause, but also by properties of the construction as a whole. For example, the complement clause selected by *zeggen* 'say' must be introduced by *dat* (see (19a)). But the complement clause selected by *zeggen* can be introduced by both *dat* and *ofdat* when a wh-element has been extracted out of it (Hoekstra and Zwart 1994):

- (20) **Wie zei Piet dat/?of/ofdat Jan kuste?**
 who said Pete that/if/ifthat John kissed
 "Who did Pete say John kissed?"

In many dialects of Dutch, the complementizers introducing a tensed complement clause can be inflected. The inflection expresses person and/or number agreement with the subject. A typical example is given in (21):¹⁴

- (21) a. **Piet zei dat/*datte Jan Marie kuste**
 Pete said that/that-PL John Mary kissed
 "Pete said that John kissed Mary."
 b. **Piet zei dat/datte de jonges Marie kuste**
 Pete said that/that-PL the boys Mary kissed
 "Pete said that the boys kissed Mary."

This phenomenon will be discussed extensively in sections IV.3 and VII.2.

Complement clauses containing an infinitive with *te*, except those in the complement of raising verbs (like *schijnen* 'seem') and certain control

¹³ In addition to *of*, *dat*, and *ofdat* the combination *alsdat* is also possible, but restricted to substandard Dutch.

¹⁴ The morphology of the plural verb forms and noun forms in the example is adapted to colloquial speech. Complementizer agreement is absent in written Dutch.

verbs (like *menen* 'think'), may be introduced by the complementizer *om*, which is optional.¹⁵ If *te* is absent, so is *om*.¹⁶

- (22) a. **Jan probeert (om) Marie te kussen/*kussen**
 John tries Mary to kiss/kiss
 "John tries to kiss Mary."
 b. **Jan schijnt (*om) Marie te kussen/*kussen**
 John seems Mary to kiss/kiss
 "John seems to kiss Mary."
 c. **Jan wil (*om) Marie kussen/*te kussen**
 John wants Mary kiss/to kiss
 "John wants to kiss Mary."

The complementizer *om* is never inflected.

Embedded questions containing a tensed verb are introduced by a wh-word and an optional complementizer. The complementizer can be *of*, *ofdat*, or *dat*. An example is given in (23):¹⁷

- (23) **Ik weet niet wie of/ofdat/?dat Marie gekust heeft**
 I know not who if/ifthat/that Mary kissed has
 "I don't know who Mary kissed."
 "I don't know who kissed Mary."

The complementizer, if present, can be inflected in those dialects that have complementizer agreement. If the complementizer is absent, the inflection shows up on the wh-element:

- (24) a. **Ik weet niet wat ofdatte de jonges gedaan hebbe**
 I know not what ifthat-PL the boys done have
 "I don't know what the boys have done."
 b. **Ik weet niet watte de jonges gedaan hebbe**
 I know not what-PL the boys done have
 "I don't know what the boys have done."

Embedded questions containing infinitival verb forms only are introduced by a wh-word, but not by a complementizer:

¹⁵ In certain infinitival adjunct clauses, such as purpose clauses, *om* is obligatory.

¹⁶ The combination of *om* and *te* appears to have been pleonastic at first. In Middle Dutch (±1200-1500), *te* was optional after prepositions like *om*. This is still the case in certain dialects of Dutch, such as West Flemish and Gronings, which have constructions like *mooi om zien* [beautiful for see], 'good looking'. Alternatively, *om* could be left out in adjunct clauses with *te*, like *vaten die assche in t'ontfane* [urns the ashes in to receive] 'urns to receive the ashes in' (Stoett 1977:202f).

¹⁷ *Dat* alone is strange, unless the matrix verb selects a noninterrogative complement clause.

- (25) **Ik weet niet wat (*of) te doen**
 I know not what if to do
 "I don't know what to do."

The *wh*-word in this case never shows any inflection.

1.3 Topicalization and Wh-Movement

Dutch main clauses may be introduced by elements other than the subject. In that case, the finite verb immediately follows the first constituent:¹⁸

- (26) a. * **Weer Jan kust Marie**
 again John kisses Mary
 b. **Weer kust Jan Marie**
 again kisses John Mary
 "Again John kisses Mary."
- (27) a. * **Marie de jongens kussen vaak**
 Mary the boys kiss often
 b. **Marie kussen de jongens vaak**
 Mary kiss the boys often
 "Mary the boys kiss a lot."
- (28) a. * **Waarom Jan kust Marie?**
 why John kisses Marie
 b. **Waarom kust Jan Marie?**
 why kisses John Mary
 "Why does John kiss Mary?"

¹⁸ Except when the verb itself is the first element, as in imperatives, counterfactuals, and yes/no-questions. Orders with the verb in third position are possible when the first constituent and the verb are separated by an unstressed sentence connecting adverb like *nu* (non-temporal) 'now', *dan* (non temporal) 'then', *echter* 'however', *daarentegen* 'in contrast', *immers* 'as is known'. It is not clear that these adverbs are not part of the first constituent, even though their syntactic function clearly lies on the sentence level. They are comparable to the Ancient Greek connective particles *de* 'but', *gar* 'as we know', and may also appear inside the first constituent (though not preceding the lexical head of the first constituent (in contrast with Ancient Greek). Cf. Zwicky 1985, Zwart 1993d:298. Other *verb third* orders involve topicalization in combination with a resumptive demonstrative pronoun (*Jan die ken ik* [John that-one know I], cf. Koster 1978b and sections 2.3 and VII.1) and stacking of adjuncts (*Gisteren, tijdens de pauze, zag ik Piet* [yesterday during the break saw I Pete]).

- (29) a. * **Wie Jan kust?**
 who John kisses
 b. **Wie kust Jan?**
 who kisses John
 "Who does John kiss?"
 "Who kisses John?"

In (26), the first element is an adverb, in (27), it is a fronted argument. These two constructions are grouped together as *topicalizations*.¹⁹ In the *wh-constructions* (28)-(29), the first element is a fronted *wh*-phrase.

Topicalizations and *wh-constructions* invariably trigger inversion of the subject and the verb in tensed main clauses. The topic/*wh*-element and the finite verb are strictly adjacent. The finite verb and the subject no longer have to be adjacent:

- (30) a. **Marie (*vandaag) kussen de jongens vaak**
 Mary today kiss the boys often
 b. **Marie kussen (vandaag) de jongens vaak**
 Mary kiss today the boys often
 "Mary the boys kiss a lot (today)."
- (31) a. **Waarom (*altijd) kust Jan Marie?**
 why always kisses John Mary
 b. **Waarom kust (altijd) Jan Marie?**
 why kisses always John Mary
 "Why does John (always) kiss Mary?"

In infinitival main clauses, topicalizations and *wh-constructions* are very marginal at best. However, it is clear that the verb must stay in the final position typical for non-finite verb forms:

¹⁹ The term *topicalization* suggests that the first constituent is a *topic*. But the first constituent can also be a nontopic, assuming 'topic' to be 'what the sentence is about' (Hockett 1958:201), as in *MARIE kust Jan* 'MARY John kisses', where the preposed constituent *Marie* is a focused part of the comment rather than a topic. On the other hand, subjects (even weak pronouns) can be topics in the 'aboutness' sense. It is not clear, however, whether preposed constituents in Dutch should always be characterized as *focus* elements. As noted by Jansen (1978:107, 1981:82) and Kooij (1978:34), fronted constituents in Dutch do not generally receive a marked intonation (as *Marie* does in *MARIE kust Jan* 'MARY, John kisses'), and appear to be part of the ground rather than the focus in most cases. It appears that neither the topic-comment distinction nor the focus-ground distinction is instrumental in characterizing fronting phenomena in Dutch. The topic-comment distinction appears to be a function of linear ordering, but intonation may have an overruling effect. The focus-ground distinction appears to be more closely linked to intonation. I will continue to use the term *topicalization* for the fronting of XPs in Dutch, referring to Vallduví (1992) for discussion of the terminological distinctions.

- (32) a. ?? **Marie de jongens kussen? Dat nooit!**
 Mary the boys kiss that never
 "The boys kiss Mary? Never!"
 b. * **Marie kussen de jongens? Dat nooit!**
 Mary kiss the boys that never
 "Mary, the boys kiss? Never!"

Wh-movement in embedded clauses does not cause a change of position for the verb:

- (33) a. **..wie (of/ofdat) Jan gekust heeft**
 who if/ifthat John kissed has
 "..who John (has) kissed."
 b. **..waarom (of/ofdat) Jan Marie gekust heeft**
 why if/ifthat John Mary kissed has
 "..why John (has) kissed Mary."

Nonwh-elements can also be fronted inside embedded clauses. For objects the fronting is only possible under certain conditions of intonation (see section 1.4). These frontings likewise never cause a change of position for the finite verb:²⁰

- (34) a. **..dat MaRIE de jongens vaak KUSsen**
 that Mary the boys often kiss
 "..that the boys kiss Mary a lot."
 b. **..dat daarom de jongens Marie vaak kussen**
 that therefore the boys Mary often kiss
 "..that because of that the boys kiss Mary a lot."

Notice that the fronted elements in (34), unlike in (33), appear to the right of the complementizer *dat*:

- (35) * **..dat ik denk Marie dat de jongens vaak kussen**
 that I think Mary that the boys often kiss
 "..that I think that the boys often kiss Mary."

This suggests that these constructions do not involve topicalization (see section VII.1).

²⁰ In embedded passive double object constructions, the indirect object preferably precedes the derived subject (*dat de jongens het boek gegeven werd* [that the boys the book given was-SG]). Following Den Besten (1985), Broekhuis (1992) argues that in these constructions the subject is not in the subject position, so that it is unclear whether the indirect object is topicalized.

1.4 Scrambling

The direct object in Dutch does not have to be adjacent to the verb.²¹ Irrespective of the position of the verb, the direct object can always be separated from it by adverbs.²²

- (36) a. **Jan** **heeft** (**gisteren**) **Marie gekust**
 John has yesterday Mary kissed
 "John kissed Mary yesterday."
 b. **Jan** **heeft Marie** (**gisteren**) **gekust**
 John has Mary yesterday kissed
 "John kissed Mary yesterday."
- (37) a. **..dat Jan (gisteren) Marie gekust heeft**
 that John yesterday Mary kissed has
 "..that John kissed Mary yesterday."
 b. **..dat Jan Marie (gisteren) gekust heeft**
 that John Mary yesterday kissed has
 "..that John kissed Mary yesterday."

In neutral speech, distinct intonational patterns are associated with the word orders in the a- and b-sentences, respectively.²³ In the a-sentences, the stressed syllable of *Marie*, *-rie*, is pronounced in a higher pitch than the preceding elements of the sentence, which are neutrally pitched, and the past participle *gekust* receives an even, low intonation. In the b-sentences, *Marie* has neutral pitch; the adverb *gisteren* receives an even, high intonation, which is continued up to the stressed syllable of the past participle, *-kust*, which is pronounced at an even higher pitch. In (37b), the auxiliary *heeft* gets a neutral, hence lower, intonation.

Many other intonational patterns are possible, however. In fact, it is questionable whether any of the intonational patterns can rightfully be called 'neutral'. Sentences like (36)-(37), involving adverbs and definite noun phrases, are very hard to dissociate from a discourse situation that is either given or constructed by the hearer. The intonational patterns described above for (36)-(37) are called 'neutral' because it appears to be more likely for elements following the sentence adverb to present new

²¹ Except when the direct object is topicalized and the finite verb is in second position.

²² For indefinite objects, see section III.3.2.

²³ See Van Buuren (1980), Gussenhoven (1984), Baart (1987) for discussion of the general features of intonation in Dutch.

information ('be in focus'), and, conversely, for elements preceding the sentence adverb to be already present in the existing discourse.²⁴

As a result, indefinite noun phrases appearing to the left of an adverb receive a special (generic, referential) interpretation, as is generally the case when an indefinite element presents old information (see De Hoop 1992, and section III.2). But it would be a severe mistake to consider these 'expected' intonational patterns to be the only possible intonational patterns, or even 'neutral' (once that term receives a clear definition, see section III.2).

Thus, the discourse situation can be different. If the adverb presents old information and the direct object is in focus, the intonational pattern of (36a) may be applied to (36b). (36b) would then have high pitch on *-rie*, and everything following *Marie* will have an even, low intonation.²⁵ Conversely, if the direct object presents old information in (36a), it will be evenly pitched, at the same level of intonation as the preceding elements. In that case, the past participle will have the rising pitch described above for the participle in (36b). The same is true for the sentences in (37).

More generally, any stressed element in the sentence may have a high intonation of its stress bearing syllable, and in that case everything following it will receive a flat, low intonation.

The phenomenon that direct objects do not have to be adjacent to the verb will be referred to as *scrambling* or *object shift*.²⁶ As demonstrated by Neeleman (1994a), two types of scrambling exist. The first type is described above. Its properties will be examined in more detail in section III.2. The second type of scrambling, called *focus scrambling* by Neeleman, has entirely different properties. Through focus scrambling, objects may appear to the left of a subject, which is not possible through ordinary scrambling. The phenomenon is illustrated in (34a). The marked, balanced intonational pattern indicated there is characteristic of focus scrambling. Other distinguishing features are its unbounded character, and the fact

²⁴ Presumably, this is because in the unmarked case sentence adverbs like *gisteren* 'yesterday' present some new information. In that situation, we do not expect sentence adverbs to intervene between the object and the verb, if the object and the verb together present a chunk of new information as well.

²⁵ In section III.2 I will follow Rochement (1986) and Selkirk (1993) in defining 'neutral intonation' as that intonation that allows a constituent α , containing a constituent β , to be in focus, on the basis of a pitch accent on an element of β . I will show that the intonational pattern with high pitch on the direct object is the neutral pattern, even if the direct object precedes the adverb.

²⁶ In the literature, the term *scrambling* is also used for free order of meaningful elements. This use is not intended here, as the order of meaningful elements is relatively fixed. The term *object shift* is also used for pronoun movement in the Mainland Scandinavian languages (where clitic placement would perhaps be a more suitable term).

that nonscrambling elements, like resultative predicates, may display it as well. Focus scrambling will be ignored in this study.

Indirect objects appear to the left of direct objects, and may be separated from them by adverbial material:

- (38) a. **..dat Jan Marie (gisteren) het boek gegeven heeft**
 that John Mary yesterday the book given has
 "..that John gave Mary the book yesterday."
 b. ?? **..dat Jan het boek Marie gegeven heeft**
 that John the book Mary given has
 "..that John gave Mary the book."
 c. **..dat Jan het boek Marie terug gegeven heeft**
 that John the book Mary back given has
 "..that John gave the book back to Mary."

(38b) is unacceptable in a neutral stress pattern, i.e. with *Marie* slightly focused. Almost any marked stress pattern makes (38b) acceptable, though. Thus, in (38c) the particle *terug* is in focus, and the order of the objects appears to be free.

Indirect objects expressed in a PP have their neutral position to the right of the direct object, but the converse order does not even merit a question mark:

- (39) a. **..dat Jan het boek aan Marie gegeven heeft**
 that John the book to Mary given has
 "..that John gave the book to Mary."
 b. **..dat Jan aan Marie het boek gegeven heeft**
 that John to Mary the book given has
 "..that John gave the book to Mary."

When the direct object and the indirect object are clitics, the word order phenomena are different, as will be discussed in section IV.2.

1.5 Clitics

Dutch has sets of strong and weak subject and object pronouns (Den Besten 1977, Koster 1978a, Berendsen 1986, Everaert 1986, Zwart 1991a):²⁷

²⁷ Object pronouns and indirect object pronouns are identical.

- (40) *Strong subject pronouns*
- | | | | |
|-----|---------|-----|--------|
| 1SG | ik | 1PL | wij |
| 2SG | jij | 2SG | jullie |
| 3SG | hij/zij | 3SG | zij |
- (41) *Weak subject pronouns*²⁸
- | | | | |
|-----|-------|-----|----|
| 1SG | 'k | 1PL | we |
| 2SG | je | 2PL | - |
| 3SG | ie/ze | 3PL | ze |
- (42) *Strong object pronouns*
- | | | | |
|-----|----------|-----|----------|
| 1SG | mij | 1PL | ons |
| 2SG | jou | 2PL | jullie |
| 3SG | hem/haar | 3PL | hen, hun |
- (43) *Weak object pronouns*²⁹
- | | | | |
|-----|----------|-----|----|
| 1SG | me | 1PL | - |
| 2SG | je | 2PL | - |
| 3SG | 'm/'r/'t | 3PL | ze |

For reasons that will become clear in section IV.2, I will refer to the weak pronouns as *clitics* (cf. Zwart 1993c).

When a subject clitic is the first element in a main clause, it is proclitic to the finite verb in second position:

- (44) **'k Heb Marie gekust**
 I have Mary kissed
 "I kissed Mary."

²⁸ The 3SG masculine weak pronoun *ie* appears in enclitic position only, and has a variant *die/tie*. Thus we have *is-ie* 'is he' next to *is-tie* 'is-he', but not *ie is* 'he is'. *Die* is the nonneuter singular demonstrative pronoun (*tie* is a devoiced alternant in enclitic situations). It is highly probable that *ie* is a variant of the demonstrative pronoun, and not a weak counterpart to *hij*. The strong-weak alternation in the pronominal system is characterized by a shift of a tonic vowel (the diphthong *ij* in Modern Dutch, the monophthong *i* in Middle Dutch) to an atonic vowel (schwa). The *hij/hi-ie* pair does not participate in this alternation. Schönfeld (1954:137) states that the variant *he* (next to *ze, me, we, ge*) is absent 'for phonetic reasons', and signals that demonstrative pronouns and personal pronouns are often in competition in Indogermanic and in the Germanic languages.

²⁹ In addition to the object clitics listed here, some dialects of Dutch have a partitive object clitic *'r* 'some'. The expletive/locative element *er* 'there' and the reflexive pronoun *zich* 'Latin *se*' are generally regarded as clitics, too.

In constructions involving subject-verb inversion, the subject pronoun is enclitic to the verb:³⁰

- (45) **Marie heb'k gekust**
 Mary have I kissed
 "Mary I kissed."

In embedded clauses, the subject clitic is enclitic to the complementizer:

- (46) **..dat'k Marie gekust heb**
 that I Mary kissed have
 "..that I kissed Mary."

Enclitic subject clitics cannot be separated from the verb, unlike full noun phrases (section 1.2) and strong pronouns (cf. Koster 1978a, chapter 1):

- (47) a. **Marie heb (*gisteren) 'k niet gekust**
 Mary have yesterday I not kissed
 "Mary I did not kiss yesterday."
 b. **..dat (*gisteren) 'k Marie niet gekust heb**
 that yesterday I Mary not kissed have
 "..that I did not kiss Mary yesterday."
- (48) a. **Marie heb (?gisteren) ik niet gekust**
 Mary have yesterday I not kissed
 "Mary I did not kiss yesterday."
 b. **..dat (gisteren) ik Marie niet gekust heb**
 that yesterday I Mary not kissed have
 "..that I did not kiss Mary yesterday."

Object clitics are enclitic to the finite verb in subject initial main clauses, and cannot be separated from them:

- (49) **Jan heeft (*gisteren) 'r gekust**
 John has yesterday her kissed
 "John kissed her yesterday."

³⁰ The encliticization does not bleed the devoicing of the final consonant of the verb. Thus, *vond-ie* [found he] is pronounced [fonti] instead of [fondi] (Booij 1985). In *heb'k*, the *b* can also be devoiced.

In main clauses introduced by an element other than the subject, the object clitics are separated from the verb by the subject.³¹

- (50) a. **Gisteren heeft Jan 'r gekust**
 yesterday has John her kissed
 "Yesterday John kissed her."
 b. * **Gisteren heeft'r Jan gekust**
 yesterday has her John kissed

In this case, the object clitic cannot be separated from the subject:

- (51) **Daarom heeft Jan (*gisteren) 'r gekust**
 therefore has John yesterday her kissed
 "That's why John kissed her yesterday."

Object clitics, unlike subject clitics, can never appear in the first position (Kruisinga 1938:95, Merckens 1961:152, Koster 1978a:210, Travis 1984:123):

- (52) a. **Ze heeft Jan gekust**
 she-SCL has John kissed
 "She kissed John."
 b. * **'r Heeft Jan gekust**
 her-OCL has John kissed
 "John kissed her."

In embedded clauses the object clitic again appears immediately to the right of the subject.³²

- (53) a. **..dat Jan'r gekust heeft**
 that John her kissed has
 "..that John kissed her."
 b. * **..dat 'r Jan gekust heeft**
 that her John kissed has
- (54) **..dat Jan (*gisteren) 'r gekust heeft**
 that John yesterday her kissed has
 "..that John kissed her yesterday."

³¹ In West Flemish the order *verb/complementizer-clitic-subject* is grammatical (Haegeman 1991). I have also observed this in dialects spoken in the South of the Netherlands (e.g. *omdat'r dat niet is* [because there that not is] 'because that is not there', instead of Standard Dutch *omdat dat'r niet is* [because that there not is]). See also Weijnen 1966:327.

³² Again, many dialects allow the clitic to precede the subject in embedded clauses (see note 31).

In double object constructions, when both objects are expressed as clitics, the two objects cluster together in the object clitic position. In the preferred order, the direct object precedes the indirect object, but the other order is also possible:

- (55) **Jan heeft't'r gegeven**
 John has it her given
 "John gave it to her."

In Exceptional Case Marking constructions, the object of the embedded clause may precede the subject of the embedded clause if and only if the former is a clitic:³³

- (56) a. **Piet heeft'r Jan zien kussen**
 Pete has her John see kiss
 "Pete saw John kiss her."
 b. * **Piet heeft Marie Jan zien kussen**
 Pete has Mary John see kiss
 "Pete saw John kiss Mary."

1.6 Extraposition

When the verb is in final position (see section 1.2), a limited class of elements may appear to the right of the verb or the verbal cluster. These phenomena are usually grouped together under the name of *extraposition*.

Complement clauses invariably follow the verb:³⁴

- (57) a. **..dat Piet zei dat Jan Marie kuste**
 that Pete said that John Mary kissed
 "..that Pete said that John kissed Mary."
 b. * **..dat Piet dat Jan Marie kuste zei**
 that Pete that John Mary kissed said

³³ The full noun phrase object of the embedded clause may precede the subject of the embedded clause only as an instance of focus scrambling, see section 1.4.

³⁴ Koster (1989) notes examples of complement clauses to the left of a factive verb in final position. These constructions appear to have the focus scrambling characteristics (see 1.4). Thus Koster's example *..dat Jan [dat...] altijd betreurd heeft* '..that John always regretted [that..]' is only grammatical with the intonational pattern found in focus scrambling constructions, with a balance of two stressed elements (in this case, some part of the embedded clause must be stressed, as well as either *altijd* 'always' or *betreurd* 'regretted').

- (58) a. **..dat Jan wilde proberen om Marie te kussen**
 that John wanted try OM Mary to kiss
 "..that John wanted to try to kiss Mary."
 b. * **..dat Jan om Marie te kussen wilde proberen**
 that John OM Mary to kiss wanted try

Adjunct clauses may also follow the verb, but they may appear in various positions further to the left:

- (59) a. **..dat Jan Marie kuste toen de film begon**
 that John Mary kissed when the movie started
 "..that John kissed Mary when the movie started."
 b. **..dat Jan Marie toen de film begon kuste**
 that John Mary when the movie started kissed
 "..that John kissed Mary when the movie started."
 c. **..dat Jan toen de film begon Marie kuste**
 that John when the movie started Mary kissed
 "..that John kissed Mary when the movie started."
 d. **..dat toen de film begon Jan Marie kuste**
 that when the movie started John Mary kissed
 "..that when the movie started John kissed Mary."

Relative clauses may appear to the right of the verb, but also to the immediate right of their antecedent:

- (60) a. **..dat Jan het meisje gisteren kuste dat hij liefhad**
 that John the girl yesterday kissed that he loved
 "..that John kissed the girl yesterday that he loved."
 b. **..dat Jan het meisje dat hij liefhad gisteren kuste**
 that John the girl that he loved yesterday kissed
 "..that John kissed the girl he loved yesterday."
 c. **Het meisje dat hij liefhad heeft Jan gekust**
 the girl that he loved has John kissed
 "The girl he loved, John kissed."
 "The girl he loved kissed John."

In (60b-c), the relative clause and its antecedent form a constituent. The relative clause may not be stranded (Kaan 1992):

- (61) a. * **..dat Jan het meisje gisteren dat hij liefhad kuste**
 that John the girl yesterday that he loved kissed
 b. * **Het meisje heeft Jan dat hij liefhad gekust**
 the girl has John that he loved kissed

Free relatives may also appear on either side of the verb (cf. Smits 1989:379):

- (62) a. **..dat Jan kust wie hij liefheeft**
 that John kisses who he loves
 b. **..dat Jan wie hij liefheeft kust**
 that John who he loves kisses
 "..that John kisses who he loves."

Prepositional phrases are always allowed to appear to the right of the verb in final position, with one significant exception. The exception concerns predicative PPs, which must appear to the immediate left of the verb or verb cluster. The rule is illustrated in (63)-(67), the exception in (68):

- (63) a. **..dat Jan houdt van Marie**
 that John holds of Mary
 "..that John loves Mary."
 b. **..dat Jan van Marie houdt**
 that John of Mary loves
 "..that John loves Mary."
- (64) a. **..dat Jan een boek geeft aan Marie**
 that John a book gives to Mary
 "..that John gives a book to Mary."
 b. **..dat Jan een boek aan Marie geeft**
 that John a book to Mary gives
 "..that John gives a book to Mary."
- (65) a. **..dat Jan verliefd is op Marie**
 that John in love is on Mary
 "..that John is in love with Mary."
 b. **..dat Jan verliefd op Marie is**
 that John in love on Mary is
 "..that John is in love with Mary."
- (66) a. **..dat Jan de jas van de zus droeg van Marie**
 that John the coat of the sister wore of Mary
 "..that John was wearing Mary's sister's coat."
 b. **..dat Jan de jas van de zus van Marie droeg**
 that John the coat of the sister of Mary wore
 "..that John was wearing Mary's sister's coat."
- (67) a. **..dat Jan Marie kuste tijdens de film**
 that John Mary kissed during the movie
 "that John kissed Mary during the movie."
 b. **..dat Jan Marie tijdens de film kuste**
 that John Mary during the film kissed
 "..that John kissed Mary during the movie."

- (68) a. * **..dat het lijk was in de kast**
 that the body was in the closet
 "..that the body was in the closet."
 b. **..dat het lijk in de kast was**
 that the body in the closet was
 "..that the body was in the closet."

In (63)-(64), the PP can be regarded as a complement to the verb. In the a-sentences of (65)-(66) the PP appears to be extracted out of an AP and an NP, respectively. In (67), the PP is an adjunct and may in fact appear in various positions further to the left as well. In (68), finally, the PP is a locational predicate with *het lijk* 'the body' as its subject. In this case is the PP not allowed to appear to the right of the verb in embedded clauses.³⁵ Notice that (68a) becomes grammatical again when the PP has adjunct status, as in (68c):

- (68) c. **..dat het lijk gevonden werd in de kast**
 that the body found became in the closet
 "..that the body was found in the closet."

Sentence adverbs show the same distribution as adjunct PPs, and hence may appear to the right of the verb in embedded clauses as well (cf. (67)):

- (69) a. **..dat Jan Marie kuste gisteren**
 that John Mary kissed yesterday
 "..that John kissed Mary yesterday."
 b. **..dat Jan Marie gisteren kuste**
 that John Mary yesterday kissed
 "..that John kissed Mary yesterday."

Predicative elements, like the locative PP in (68a-b), invariably appear to the immediate left of the verb in embedded clauses:

³⁵ Another type of exception involves idioms containing PPs. These PPs may not appear to the right of the verb in final position, even if they cannot be analyzed as predicates. Thus, whereas *Dat kun je op je vingers natellen* [that can you on your fingers after-count] 'You can check that (by calculating) on your fingers' has an idiomatic reading 'that is an inevitable result', this reading is lost when the PP *op je vingers* 'on your fingers' appears to the right of the verb *natellen* 'check'. See Koster (1995) for a minimalist account of the distribution of these PPs in Dutch. Veld (1993:147f) notes some exceptions to this exception, where a PP that is part of an idiomatic expression appears to the right of the verb, such as *eieren kiezen voor je geld* [eggs choose for your money] 'settle for a compromise'.

- (70) a. * ..dat Jan de kast vond leeg
 that John the closet found empty
 "..that John found the closet empty."
 b. ..dat Jan de kast leeg vond
 that John the closet empty found
 "..that John found the closet empty."

2 Previous Treatments within Generative Grammar

This section briefly summarizes the traditional analysis of Dutch syntax within the theoretical framework of generative grammar.

The traditional analysis goes back to the pioneering work of Jan Koster and Hans den Besten in the 1970s. This work yielded the two cornerstones for every analysis of Dutch syntax in the two decades to follow. These two cornerstones are the following hypotheses:

1. Dutch is an SOV language.
2. In Dutch tensed main clauses the verb invariably moves to C.³⁶

These two hypotheses, and their consequences, will be discussed in the following two subsections.

2.1 Dutch as an SOV Language

In generative grammar, a language *L* is defined as an SOV language if all possible word orders of *L* are derived from an initial representation in which the order of meaningful elements is Subject-Object-Verb.

It was concluded as early as Bach (1962) and Bierwisch (1963) that German is an SOV language in this sense.³⁷ German displays by and large

³⁶ *C* is the position of the complementizer. It is assumed to be the head of a functional projection *CP* since Chomsky (1986b) (cf. Figure 1 in section 1.2). Before that, the complementizer position was referred to as *COMP*. The *COMP* position was not a head position, and could be adjoined to by maximal projections.

³⁷ For a discussion of the status of German in traditional grammatical frameworks, see Scaglione (1981). In the 19th century a consensus arose as to the SOV status of Proto-Indo-European and Proto-Germanic (cf. Behaghel 1878, Delbrück 1911). It was assumed that the present asymmetric character of German is due to an unfinished shift from SOV to SVO status. After a period of uncertainty, the shift was apparently halted around 1500-1600. For unclear reasons, the embedded clause word order reverted to SOV, whereas the main clause word order remained SVO.

the same word order phenomena as described for Dutch in section 1.2.1 (the position of the verb), 1.3 (topicalization and wh-movement), and 1.4 (scrambling).

Bach (1962) shows that the position of the finite verb in German main clauses (i.e. the second position) can be derived by a single transformation, if we assume that the basic order in German is SOV. To make sure that this transformation does not apply in embedded clauses, Bach makes crucial reference to the sentence boundary symbol in the description of the rule.³⁸ Bach's *Verb Second* transformation obligatorily moves the finite verb to the second position to the right of the sentence boundary. This transformation follows the other rules which determine the order of subject and object, for instance. This ordering makes the formulation of a single rule governing verb movement possible.³⁹

Koster (1975) is the first generativist treatment of the basic order question for Dutch. In the spirit of Bach (1962), Koster argues for a single verb movement transformation deriving the various main clause word orders of Dutch. This transformation (called *Verb Placement*) moves finite verbs to the left of the subject and to the right of a clause initial position called COMP.⁴⁰ This COMP position must be substituted for by either the subject (in subject initial main clauses), or a wh-phrase (in wh-constructions), or a non-subject (in topicalizations).

Koster defines Verb Placement as follows:

³⁸ This requires a distinction between a clause boundary and a sentence boundary, and a rule changing the first into the latter at some point in the derivation of a sentence in the proper contexts.

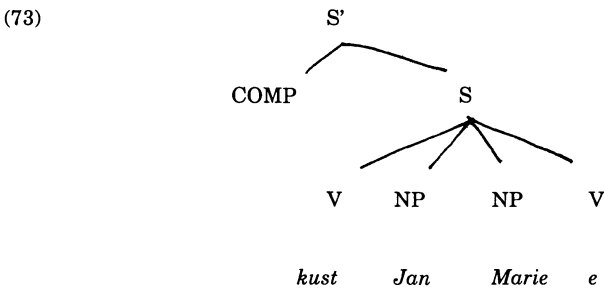
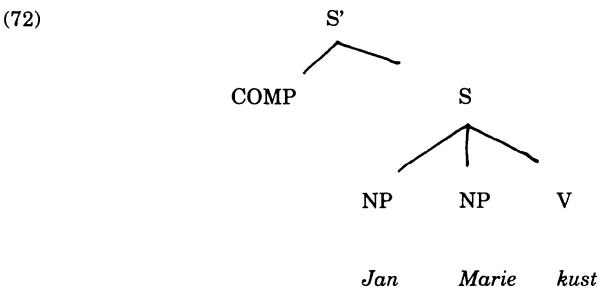
³⁹ Bach's view was challenged by J.R. Ross (1970), who concluded that German was an SVO language on account of the fact that it allows forward gapping, which is unexpected in a truly verb final language. Bach appears to have been convinced by this argument (cf. Bach 1971). Ross on his turn became convinced that German was SOV after his analysis of gapping was challenged by Maling (Maling 1972, see Koster 1975:112). Koster 1975 is in part an improvement of Maling's argument. The discussion concerning basic word order typology was obscured in the late 1960's, early 1970's by the emergence of the theory of generative semantics, which on principled grounds favored a VSO base, or a base without linear ordering. This explains the hesitance of Kooij (1973:26) on the matter. For recent suggestions in this direction within the principles and parameters approach, see Ouhalla (1991) and Chomsky (1995:334).

⁴⁰ See note 36.

(71) *Verb Placement*

	X	-	COMP	-	Y	-	V	-	Z	
S.D.	1		2		3		4		5	
S.C.	1		2		4+3		Ø		5	→ obl.

Verb Placement turns the initial representation (72) into the intermediate representation (73):



The COMP position is filled by subsequent transformations, so that the verb ends up in the second position in the final representation.

In (73), the finite verb is immediately dominated by the root node S. Thus, Verb Placement is a root transformation (see Emonds 1970). It follows that Verb Placement cannot take place in embedded clauses.

To be more exact, it must be stipulated that Verb Placement is a root transformation *only*, or a *last cyclic rule*. Koster notes that there are many transformations that are last cyclic only, but no known cases of transformations that take place in every cycle but the last. If the embedded clause word order were derived from the main clause word

order, we would be forced to accept a non-last cyclic verb postposing rule. This is less attractive than positing Verb Placement as a last cyclic rule.

Thus, by embedding Verb Placement in a general theory of possible transformations, and by characterizing it as a last cyclic rule, Koster maintains Bach's result that a single rule takes care of the position of the finite verb in all constructions.

In addition, Koster presents an empirical argument for the basic SOV order of Dutch which has become influential.⁴¹ Koster notes that in main clauses in Dutch containing a particle-verb construction, the particle and the verb constitute a discontinuous category embracing all other categories (except the first element):

- (74) a. **Jan** **belde** **gisteren** **Marie** **op**
 John called yesterday Mary up
 "John called Mary up yesterday."
 b. * **Jan** **belde** **gisteren** **op** **Marie**
 John called yesterday up Mary
 c. * **Jan** **belde** **op** **gisteren** **Marie**
 John called up yesterday Mary
 d. * **Jan** **op** **belde** **gisteren** **Marie**
 Jan up called yesterday Mary

Koster assumes that verb-particle combinations are compound verbs, i.e. the particle and the verb are both generated in V.⁴²

This implies that one of two situations obtains in Dutch. Either Dutch has a basic SVO order. In that case there is a rule moving particles to the right in main clauses and embedded clauses, and a second rule moving the finite verb to the right in embedded clauses. Or Dutch has a basic SOV order. In that case there is no rule affecting the position of the particle and there is a rule moving the finite verb to the left in main clauses (Verb Placement).

It is obvious that the rule system connected with the basic SOV order is more economical.

Koster then proceeds to demonstrate that the particle in (74a) signals the basic verb position, by showing that the particle in the main clause has exactly the same distributional properties as the finite verb in the embedded clause. In particular, all and only those elements that may appear to the right of the finite verb in embedded clauses may appear to

⁴¹ Koster (1975) also presents another empirical argument in support of the hypothesis that the main clause word order is derived from the embedded clause word order, involving the distribution of PPs in main and embedded clauses.

⁴² According to Koster's present analysis, the particle is either incorporated as part of V or moved to the specifier position of a Predicate Phrase (Koster 1995; for the Predicate Phrase, see section III.3 and Zwart 1993b:319f, 1994a).

the right of the particle in main clauses (cf. section 1.6). This will go without demonstration here (see Koster 1975:119ff).

Koster's conclusion that Dutch is an SOV language has deeply influenced the study of Dutch syntax in the generative framework.

First, the analysis of the main clause word order of Dutch as involving a combination of verb preposing and topicalization has become standard (see among others Den Besten 1977, Thiersch 1978, Koopman 1984, Weerman 1989).

Second, the characterization of Dutch as an SOV language implies that Dutch is a mixed branching language. The position of the complementizer shows that CP is head initial, whereas the position of the verb shows that VP is head final. When the existence of the independent functional head for inflectional features (INFL) was established, it was generally concluded that its maximal projection IP branched like VP and was head final as well.⁴³ In connection with this, it was assumed that the finite verb in embedded clauses occupies the INFL-position in overt syntax.

These assumptions were based on the idea that the inflectional morphemes are generated in INFL, and have to be combined with the verbal stem in overt syntax ('at S-structure'). It was assumed that in English this combination takes place by lowering the inflectional morphemes onto the verbal stem in V, whereas in Dutch, the verbal stem raises to the inflectional morphemes in INFL.⁴⁴ Since finite verbs are clause final in embedded clauses in Dutch, it follows that INFL is located to the immediate right of the VP in languages like Dutch and German. The same logic applies to the infinitives with *te*. *Te* was considered as an inflectional element, generated in INFL, and the verb stem was analyzed as raising to *te* in overt syntax. These assumptions have yielded a kind of typological

⁴³ The idea that inflectional elements are generated separately from verbal stems is already present in Chomsky (1957), and is rooted in the post-Bloomfieldian practice of considering inflectional morphemes as separate constituents (Zwart 1994d). The idea that INFL is the head of the clause appears to be due to Ken Hale, who proposed this in class lectures at MIT in 1977 (see Stowell 1981:99, Safir and Pesetsky 1981:342, Borer 1981:16). This idea appears to have been wide-spread around the year 1980. The idea that INFL projects a regular X-bar structure, with a specifier and a complement, was first formulated in Stowell (1981:67), see also Pesetsky (1982:253).

⁴⁴ The reordering of inflectional morphemes and lexical stems was introduced as a linear permutation rule in Chomsky 1957:62. This rule, later called *Affix Hopping*, did not yet have the hierarchical dimension associated with the terms *raising* and *lowering*. The *raising-lowering* distinction was introduced in Emonds (1976) to account for differences in verb position between French and English. The lowering rule is adopted as *Rule R* in Chomsky 1981. Chomsky (1991) proposes a combination of lowering in overt syntax and raising at LF for English, but this analysis was rejected in Chomsky (1993:29), where it is assumed that functional heads host abstract features instead of concrete morphemes. On this assumption, lowering is just the absence of overt verb movement.

truism, according to which SOV languages have head final functional projections.

A third major consequence of the assumption that Dutch is an SOV language was that a number of rightward movement rules had to be assumed. Thus, the phenomena described in section 1.6 (known as extraposition phenomena) were considered to involve movement to the right across the verb. These rightward movements were also empirically motivated by the existence, in various languages, of constructions where clauses and PPs are separated from the elements they appear to belong to (cf. Ross 1967):

- (75) a. **A book on linguistics came out today**
 b. **A book came out today on linguistics**
- (76) a. **A book that I wrote years ago came out today**
 b. **A book came out today that I wrote years ago**

A fourth major consequence of the analysis of Dutch as an SOV language has been the introduction of a directionality parameter for grammatical relations. Since Dutch is an SOV language, one could suppose there to be a canonical direction of government in Dutch, according to which heads govern their complements only in a right-to-left fashion. SVO languages, like English and Italian, would have the opposite canonical direction of government.

The idea that the verb governs to the left in Dutch suggests an account for the distribution of noun phrase complements and clausal complements (Reuland 1981). Noun phrases must be formally licensed through Case assignment (Vergnaud 1979, Chomsky 1981), and Case is assigned to a direct object under government by the verb (Chomsky 1981). Clausal complements do not need to be licensed through Case assignment; in fact, they resist Case (Stowell 1981). One could assume that for that reason sentential complements flee from positions in which they would otherwise be assigned Case. Hence, in Dutch they move to the right of the verb, where they are not governed by the verb and consequently cannot be assigned Case by the verb.⁴⁵

2.2 Verb Movement to C

Koster's Verb Placement transformation moves the finite verb to a position to the left of the subject and to the right of the clause initial element

⁴⁵ The idea of directionality of government has had numerous other implementations (see among others Kayne 1984, Koster 1987, Bayer 1996). Space does not permit a full discussion of the relevant work in this study.

COMP (followed by movement of a maximal projection to COMP). Den Besten (1977) modified this analysis slightly, by arguing that all root transformations involve movement to COMP.⁴⁶

Thus, in Den Besten's influential analysis, the target of the verb movement in finite clauses in Dutch is COMP itself. Wh-movement, topicalization, and subject preposing also move constituents into COMP. The verb is adjoined to the right of COMP, and the other preposed constituents are adjoined to the left of COMP.

Den Besten asserts that there are two sets of root transformations, the verb movement transformation making up one set and the other root transformations making up the other. Only one transformation per set may be chosen for each sentence.⁴⁷

Den Besten's principal argument in support of the hypothesis that all root transformations involve COMP is based on the consideration that preposings must involve raising to a higher position, rather than leftward shifting to a sister position.⁴⁸ Thus, an element that is preposed out of S has to move to the sister position of S, or higher. Since COMP is the only known sister of S, all preposings must target COMP.

Den Besten in addition presents some empirical evidence in favor of the idea that verb preposing invariably involves movement to COMP (1989:25f). Recall from section 1.5 that Dutch subject clitics have to be adjacent to the complementizer in embedded clauses. As was illustrated there, the subject clitics similarly have to be adjacent to the finite verb in topicalization constructions. This can be captured in a single statement if the verb occupies the complementizer position in topicalizations.

As Den Besten admits, this evidence is neutral as regards the proper description of subject initial main clauses (1989:25). Den Besten nevertheless concludes that the verb moves to COMP in this case as well, since "the superiority of a grammar of Dutch that accounts for all verb preposings by means of one rule that moves the verb from a VP-final position (..) to one specified position in COMP, is evident" (*loc.cit.*).

In a later modification, Den Besten argues that verb movement to COMP is not adjunction to the complementizer, but substitution in the

⁴⁶ Recall that before Chomsky (1986b) the clause initial element *COMP* was thought of as containing both fronted maximal projections and the verb/complementizer. These two functions of *COMP* were later distributed among the specifier of *CP* and *C*, respectively.

⁴⁷ This distinction between two sets of root transformations to COMP foreshadows the distinction between head movement to *C* and XP-movement to the specifier of *CP* (cf Chomsky 1986b).

⁴⁸ For the details of this argument the reader is referred to the original text, as published in Den Besten (1989:40ff).

position of the complementizer.⁴⁹ This explains why the preposed verb and the complementizer are never found in COMP together.⁵⁰

In this modified version, Den Besten clearly links verb preposing to tense. The COMP position is considered as a tense position, because the complementizer *dat* specifically requires a finite verb, and the complementizer *om* specifically requires a *te*-infinitive. Verb preposing is then redefined as 'Move Tense'. This movement is blocked when the tense position (COMP) is already lexically filled, but obligatory whenever the complementizer is absent.

There is a very clear complementary distribution of the complementizer and the finite verb in German. In certain embedded clauses in German the complementizer can be left out. In that case, the embedded clause has the main clause word order.⁵¹

- (77) a. **Johann küßt Maria** *German*
 John kisses Mary
 b. * **Johann Maria küßt**
 John Mary kisses
- (78) a. **Peter behauptet, daß Johann Maria küsse**
 Pete claims that John Mary kisses-SUBJ
 "Pete claims that John kisses Mary."
 b. * **Peter behauptet, daß Johann küsse Maria**
 Pete claims that John kisses-SUBJ Mary
- (79) a. **Peter behauptet, Johann küsse Maria**
 Pete claims John kisses-SUBJ Mary
 "Pete claims that John kisses Mary."
 b. * **Peter behauptet, Johann Maria küsse**
 Pete claims John Mary kiss-SUBJ

A similar complementarity is found in counterfactuals in both German (80) and Dutch:

⁴⁹ This modification was published as Appendix II to Chapter 1 of Den Besten (1989), but dates back from a presentation at GLOW in 1978. The Appendix contains other modifications as well, for instance in arguing for a landing site for Wh-elements outside COMP. This is another step towards the development of a specifier of CP. This latter modification appears to be based on the analysis of topicalization of Koster (1978b).

⁵⁰ In the adjunction analysis proposed by Den Besten in his 1977 text, it was assumed that the complementizer is automatically deleted when the verb moves to COMP.

⁵¹ The subjunctive (SUBJ) verb form shows that the embedded verb second clauses are really subordinated, according to Schwartz and Vikner (1989), but see also Den Besten (1989:86) and Reis (1996). Similar constructions are also possible in colloquial Dutch, as illustrated in section 1.2.1. Note, however, that the embedded verb movement in colloquial Dutch is possible with the complementizer present, unlike in German.

- (80) a. **..als ob der Himmel die Erde still geküßt hätte**
 as if the sky the earth silently kissed had-SUBJ
 "...as if the sky had silently kissed the earth."
 b. **..als hätte der Himmel die Erde still geküßt**
 as had-SUBJ the sky the earth silently kissed
 "...as if the sky had silently kissed the earth."

The complementary distribution of the complementizer and the fronted finite verb is often adduced as an argument for the correctness of the hypothesis that verb fronting involves movement to COMP.⁵²

Den Besten's analysis has had a considerable impact on the study of Dutch and other Germanic languages.⁵³

In the next subsection, the traditional analysis of the phenomena of Dutch syntax (based on the assumption that Dutch is an SOV language with invariant movement to *C* in main clauses) will be briefly sketched.

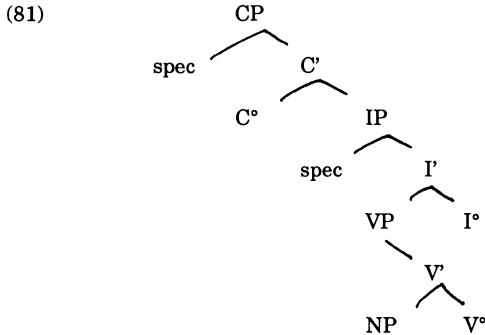
2.3 The Traditional Analysis of the Phenomena of Dutch Syntax

The phenomena of Dutch syntax listed in section 2.1 have received the following standard analysis in the *Government and Binding* framework of generative grammar. Most features of this analysis derive from the basic assumptions discussed above: Dutch is an SOV language and the verb moves to *C* in main clauses.

It follows from the SOV status of Dutch, and from the assumption that SOV languages have a head final *IP*, that Dutch sentences are structured as in (81):

⁵² As will become clear in section 3.2, the complementary distribution of complementizer and verb does not prove Den Besten's analysis to be correct (cf. also Travis 1991). I will argue in chapter VI that this complementary distribution actually supports the hypothesis that verb movement in subject initial main clauses does not target the complementizer position.

⁵³ See among many others Kayne (1982), Platzack (1983), Holmberg (1986), Haider and Prinzhorn, eds. (1986), Vikner (1991, 1995). The short list of dissidents includes Travis (1984, 1991), Reinholtz (1989), Zwart (1991a). For verb second effects in Romance described in terms of Den Besten's analysis, see Adams (1987), Rizzi (1990), Lema and Rivero (1992), Poletto (1992) and for Celtic, see Schafer (1995). Verb Second effects in non-Indo-European languages are also standardly described in terms of movement to *C* (e.g. Black 1992 for Shipibo).



The inflectional morphemes, including *te*, are generated in *I*. The verbal stem, generated in *V*, raises to *I* in order to combine the verbal stem and the inflectional morphemes. In main clauses, tensed verbs move on to *C*.

The subject occupies the *spec* position of *IP* in embedded clauses. In main clauses, the subject either moves to the *spec* position of *CP* (a subcase of topicalization), or stays in the *spec* position of *IP*. In the latter case, the *spec* position of *CP* is occupied by another XP, by way of topicalization or *wh*-movement.

Complementizer agreement, first noted in the generative framework in Den Besten's Appendix II to his 1977 paper (Den Besten 1989:93), has given rise to two types of analysis. First, one could argue that *C* is an inflectional category, hosting abstract agreement features. In Chomsky (1981), these abstract agreement features are generated as a subpart of *I*. It could be the case that in Dutch they are generated as a subpart of *C* (Bayer 1984a:249, Bennis and Haegeman 1984:41, Koopman 1984:214, Haider 1986:69).

According to a second analysis, the agreement morphology originates in *I* but is moved to *C*, where it shows up on the complementizer (Hoekstra and Márazcz 1989).

For *topicalization*, basically two analyses have been proposed. According to one analysis, the topic is moved to the *spec* position of *CP* (Koster 1975, Baltin 1982). According to the other analysis, topicalization involves base generation of the topic outside *CP* (Chomsky 1977, Koster 1978b). In this analysis, the *spec* position of *CP* is occupied by an empty operator (Chomsky) or a (possibly empty) demonstrative pronoun (the *d-word*, Koster), which is moved from within the *VP*. The latter analysis is supported by the existence of constructions like (82), in which the presence of the *d-word* *die* is optional:

- (82) **Jan (die) ken ik niet**
 John that one know I not
 "John I don't know."

In both analyses, the placement of the subject in front of the finite verb in main clauses is considered to be a subcase of topicalization. Subjects may be resumed by a d-word as well:

- (83) **Jan (die) komt niet**
 John that one comes not
 "John isn't coming."

Wh-movement in both main clauses and embedded clauses targets the *spec* position of *CP* (Chomsky 1986b).

The traditional analysis of *scrambling* goes back to Kerstens (1975), Van Riemsdijk (1978) and De Haan (1979). According to this analysis, adverbs have a fixed position. Sentence adverbs, like *gisteren* 'yesterday', are adjoined to VP. As a result, scrambling consists in optional movement of a noun phrase to the left.⁵⁴

It was discovered in the mid 1980s that scrambled objects in Dutch license parasitic gaps (Bennis and Hoekstra 1984, Koster 1984; cf. Felix 1983 for German):

- (84) **..dat Jan Marie_i zonder e_i aan te kijken t_i gekust heeft**
 that John Mary without on to look kissed has
 "...that John kissed Mary without looking at her."

In (84), the direct object *Marie* is moved from the position indicated by the trace across the adjunct clause *zonder aan te kijken* 'without looking at' as an instance of scrambling. The adjunct clause contains a gap which is parasitic on the trace of the direct object.

The fact that scrambling licenses parasitic gaps characterizes it as an instance of A'-movement (movement to a position that is not a potential argument position, Chomsky 1981). This has become a standard aspect of the analysis of scrambling in Dutch.⁵⁵

The *clitic* status of the weak pronouns in Dutch is argued for in Koster (1978a:209f) and Van Riemsdijk (1978:33). Stowell (1981:120f) follows their argumentation and concludes that these clitics must be adjoined to

⁵⁴ The other possibility, according to which noun phrases have a fixed position and adverbs optionally move to the right, was commonly held in the early 1970s (cf. Keyser 1968, Booij 1974).

⁵⁵ Later developments have made it clear that scrambling in Dutch also has many properties of A-movement. See Vanden Wyngaerd (1989a).

a head position to the left of the VP.⁵⁶ In general, however, the consensus was that the Germanic clitics differ from the Romance clitics in that the former are adjoined to VP, whereas the latter are adjoined to heads (Everaert 1986). In this view, then, scrambling is an optional leftward shift *inside* VP, and the Dutch clitics are left-adjoined to VP. This explains why clitics show up further to the left than full NPs.

Elements appearing to the right of the clause final verb position, such as clausal complements and adjuncts, relative clauses, PPs, and adverbials are assumed to have been moved there by rightward *extraposition*, crossing the final verbal position.⁵⁷

This concludes the survey of the main aspects of the traditional analysis of Dutch syntax within the *Government and Binding* framework. In the next subsection, I will discuss certain aspects of this analysis which are problematic within the set of assumptions which make up the Government and Binding framework.

3 Problems of the Traditional Analysis

In this section, I will mention a number of problems connected with the traditional analysis of Dutch syntax as sketched in section 1.2. These are problems from the point of view of the relevant stage of the theoretical framework, i.e. the Government-Binding approach.

Obviously, theoretical developments, such as the emergence of the minimalist approach, necessitate reassessments of traditional analyses. However, it is important to note that the traditional analysis of the syntax of Dutch already had many problematic aspects, even within the framework of the Government and Binding approach. In fact, the traditional analysis is basically a pre-Government and Binding analysis, which failed to make the transition into the Government and Binding stage (even though its main points were widely accepted within that stage).

⁵⁶ Stowell (1981) argues for a double headed VP in Dutch. The head position to the right is the basic position of the verb, the head position to the left is the verb second position. In a footnote (fn 25, p.221) Stowell notes that "it may be that (...) the second position corresponds to the INFL position in S, suggesting that INFL should be included in the discontinuous verb complex".

⁵⁷ The alternative analysis, according to which complement clauses are base-generated to the right of the final verbal position, faces the problem that different basic positions for clausal objects and noun phrase objects must be assumed (cf. Hoekstra 1987).

It comes as no surprise, therefore, that a further sharpening of the notions that became important in the Government and Binding era (such as economy of derivation and representation, visibility, Full Interpretation, feature checking), which yields the minimalist approach, makes the traditional analysis untenable in a very obvious way. The problematic aspects of the traditional analysis were already clearly present in the Government and Binding era.

3.1 INFL

In the traditional analysis of Dutch syntax inflected verbs occupy the INFL position in overt syntax, in embedded clauses, or the COMP position, in main clauses. The underlying assumption in this analysis is that inflectional morphology is generated in INFL and has to be combined with a verbal stem in overt syntax (cf. Lasnik 1981).

A problem of this aspect of the analysis is that there are two ways to combine the verbal stem and the inflectional morphology. The verb can raise to INFL, but INFL can also lower onto the verb. This latter mechanism is assumed to apply in English (Emonds 1976, Chomsky 1981).

Assuming that INFL in English is occupied by the auxiliary *do*, by modal verbs like *will*, and by the infinitival marker *to*, constructions like (85) indicate that INFL is located to the left of VP:

- (85) a. **John did not kiss Mary**
 b. **John tried to quickly kiss Mary**

Quickly is a VP modifying adverb (instead of a sentence modifying adverb like *yesterday*). It is assumed to occupy a VP internal or VP adjoined position. Therefore, (86) shows that finite verbs in English may occupy a VP internal position:

- (86) **John quickly kissed Mary**

On the assumption that inflectional morphology is generated in INFL, (86) must be derived from (87), and the inflectional morphology must have moved down to the verbal stem to yield (86).

- (87) **John -ed quickly kiss- Mary**

A similar example of lowering is provided by Swedish. Swedish, unlike English, displays the same asymmetry between main clauses and embedded clauses as Dutch and German (Kosmeijer 1986). Thus, in main clauses the finite verb is in second position, and in embedded clauses it is

further to the right. Unlike Dutch and German, however, and like English, embedded clauses in Swedish show an SVO word order. For this reason, the asymmetry between main and embedded clauses can only be demonstrated when the sentence contains an adverbial.

It is assumed that the negative element *inte* 'not' is such an adverbial. Furthermore, it is assumed that *inte* marks the VP boundary. Thus, Swedish has the following paradigm:

- (88) a. **Johan köpte inte boken** Swedish
John bought not book the
"John didn't buy the book."
b. * **Johan inte köpte boken**
John not bought book the
- (89) a. * **..att Johan köpte inte boken**
that John bought not book the
b. **..att Johan inte köpte boken**
that John not bought book the
"..that John didn't buy the book."

The word order in (89b) indicates that the finite verb is inside the VP in embedded clauses in Swedish. Thus, whereas the phenomena of Dutch and Swedish are identical, the set of assumptions leading to the analysis of verb raising to INFL in Dutch leads to an analysis of INFL lowering in Swedish.

Therefore, the choice for verb raising in the analysis of Dutch embedded clauses, instead of INFL lowering, is arbitrary.⁵⁸

The suggestion that the verb moves to INFL in embedded clauses in Dutch would be stronger if it resulted in perceptible changes in word order. However, the verb-to-INFL movement, if it takes place, is always vacuous (Reuland 1990b).

This is not a necessary state of affairs. It could be that there are adverbial elements, or PPs, or clausal complements or adjuncts adjoined to the right of VP and that these elements were crossed by the verb on its way to INFL. But this can never be demonstrated.

In part, this is due to two other assumptions of the traditional analysis. First, the extraposition rule always moves clausal complements

⁵⁸ It has been argued that Dutch and Swedish differ in one important respect, namely the number of different inflectional forms within a verbal paradigm (Platzack and Holmberg 1989, Vikner 1993, Roberts 1993). Thus, Dutch has 3 different verb forms within the present indicative paradigm, whereas Swedish has only 1 verb form for all persons and numbers in each paradigm. However, that does not detract from the fact that the Swedish finite verb forms are clearly both marked and perceived as finite, since the forms for present and past are different, and also the infinitival form differs from the finite forms. The finite verb forms are recognized as such from the earliest period of language acquisition (Wexler 1993).

to the right. Apparently, this means to the right of INFL. Second, it is assumed that all verbs, including the non-finite forms, move to INFL. As a result, nothing is left behind to mark the original position of the verb. This makes the verb raising vacuous by definition.

However, the conclusion that nothing is left behind to mark the original position of the verb cannot be drawn as easily as that. First, while infinitives obligatorily form a cluster, past participles appear to be included in the cluster only optionally. They may show up both to the left and to the right of the cluster:

- (90) a. **..dat Jan Marie gekust zou moeten hebben**
 that John Mary kissed should must have
 "..that John should have kissed Mary."
 b. **..dat Jan Marie zou moeten hebben gekust**
 that John Mary should must have kissed

Other orders are excluded in standard Dutch (but not in West Flemish, for instance). The verb clustering mechanism in its simplest form (adjunction to the right) yields (90b), not (90a). It may be the case then, that the past participle is left behind in the verb position in (90a).

If so, it should be possible for adjuncts that are right adjoined to VP to intervene between the past participle and the finite verb if the latter moves to INFL. But this is never the case:

- (91) a. * **..dat Jan Marie gekust tijdens de film heeft**
 that John Mary kissed during the movie has
 b. **..dat Jan Marie tijdens de film gekust heeft**
 that John Mary during the movie kissed has
 "..that John kissed Mary during the movie."

So the vacuous movement hypothesis for verb-to-INFL movement requires a verb clustering mechanism that moves past participles out of the VP, but to different positions in (90a) and (90b).

A similar consequence applies to verb particles and resultative predicates. Recall from the discussion of Koster (1975) that particles are assumed to be part of a compound verb, left behind when the verb is preposed. It must now be assumed that the particle does move along with the verb to INFL, and is stranded there. Otherwise, the particle would mark the original position of the verb, and we would expect certain elements to be able to intervene between the particle and the verb in INFL. But this is never found:

- (92) a. * **..dat Jan Marie op tijdens de film belde**
 that John Mary up during the movie called
 b. **..dat Jan Marie tijdens de film op belde**
 that John Mary during the movie up called
 "..that John called Mary up during the movie."

Similarly for resultative predicates:

- (93) a. * **..dat Jan de deur rood met één kwast verfde**
 that John the door red with one brush painted
 b. **..dat John met één kwast de deur rood verfde**
 that John with one brush the door red painted
 "..that John painted the door red with a single brush."

These elements must also be assumed to move along to INFL, because nothing may appear between them and the verb. This is not an attractive conclusion, because resultative predicates can be phrasal (i.e. *rood* 'red' in (93) can be replaced by the phrase *net zo rood als de kast* 'just as red as the closet').

Thus the hypothesis of vacuous verb-to-INFL movement can only be maintained on the auxiliary assumption that all elements that *could* have marked the original position of the verb, whether heads or phrases, are moved along in the vacuous movement to INFL. This makes the hypothesis rather suspect.

In addition, Reuland (1990b) presents an empirical argument against vacuous verb-to-INFL movement in Dutch. This argument is based on the hypothesis that adverbial scope is determined by hierarchical rather than linear relations (cf. Reinhart 1976). Thus, an element higher in the tree has scope over an element lower in the tree, regardless of linear order. In Dutch, VP-internal elements are ordered in such a way that the linear order equals the hierarchical order. Thus, both sentences in (94) have only one reading:

- (94) a. **..dat Jan Marie herhaaldelijk op beide wangen gekust heeft**
 that John Mary repeatedly on both cheeks kissed has
 "..that John repeatedly kissed Mary on both cheeks."
 b. **..dat Jan Marie op beide wangen herhaaldelijk gekust heeft**
 that John Mary on both cheeks repeatedly kissed has
 "..that John on both cheeks kissed Mary repeatedly."

In (94a), John on several occasions gave Mary a kiss on each cheek. In (94b), John gave each of Mary's cheeks a streak of kisses.

Reuland's argument now goes as follows. Suppose that in Dutch the VP and the IP are head-final. Suppose that adverbs and PPs may be adjoined to VP. Suppose further that extraposition of PPs involves movement of the PP to the right. Assuming this much, we must allow for

the possibility that PPs move to the right, across the V-position, and adjoin to the right of the VP. Now if the verb (or verb cluster) moves from V to INFL, by vacuous verb movement, the movement of the PP to the right will be vacuous as well. If so, we may expect the linear order to be different from the hierarchical order: the right adjoined PP may be higher than the adverb. Thus we predict that (94a) also has the reading of (94b), which is not the case.

We see here that the vacuous V-to-INFL movement hypothesis predicts a possibility that does not exist. This makes the V-to-INFL movement suspicious, if not impossible.

I will return to the problems of the vacuous V-to-INFL movement hypothesis below (section IV.1). A final remark must be made here on the nature of the lowering process.

Lowering (or rightward movement) of inflectional morphemes to the verbal stem has been an aspect of generative grammar ever since its beginnings.⁵⁹ It is also quite obvious that lowering is a problematic mechanism. Thus, it is countercyclic and it does not leave a c-commanded trace. Chomsky (1991) solves the latter problem by assuming that the verb-INFL combination moves back to the INFL position at LF. This, however, yields other problems, having to do with economy of derivation. All these problems are due to the basic assumption that inflectional morphemes are generated in the INFL position.

There is, however, a separate tradition within generative grammar according to which inflected elements are generated in fully inflected form (Lieber 1980, Williams 1981, Lapointe 1981, Reuland 1986; see section V.2.1 for more discussion). In this approach, it can be assumed that functional heads are not occupied by inflectional *morphemes* but by inflectional *features* (Travis 1984:139, Fabb 1984, Zwart 1987, Zwart and Hoekstra 1989). On this assumption, languages like English and Swedish are characterized by the circumstance that inflected verbs procrastinate raising to INFL until LF. If that is the correct approach, it is an open question whether verb raising to INFL in Dutch takes place in overt syntax or at LF. As we have seen in section I.2, the assumption that functional heads host features rather than morphemes is a crucial part of the Minimalist Program.

In sum, if doubt is cast on the existence of verb movement to an INFL position to the right of the VP in Dutch, this does not automatically lead to the conclusion that Dutch has the suspect INFL-lowering mechanism.

⁵⁹ See note 44.

3.2 COMP

Den Besten (1977) argues that the finite verb invariably moves to *C* in main clauses in Dutch.

As pointed out in section 2.2, Den Besten's empirical arguments in favor of verb movement to *C* in Dutch relate to inversion constructions only. In these constructions, the verb is subject to the same adjacency conditions as the complementizer. Den Besten presents no direct evidence relating to the position of the verb in subject initial main clauses. He notes, however, that a grammar of Dutch containing only one verb movement rule (verb movement to *C*) is superior to a grammar having more than one rule (verb movement to *C* in inversion constructions, and movement to a lower position in subject initial main clauses).

This argumentation is no longer valid in the Government-Binding framework (Chomsky 1981). In this framework, particular movement rules do not exist anymore. Rather, all movements have the same format (*Move* α , "move anything anywhere"). The output of the application of *Move* α is subject to various grammaticality conditions, as specified by the modules of grammar (Case Theory, Theta Theory, Binding Theory, Bounding Theory, etc.; see Chomsky 1981, Koster 1987).

Consequently, rules can no longer be counted, and grammars can no longer be compared by counting the rules they need. In the Government-Binding framework, a movement can be ruled out only if it results in a representation which does not meet all grammaticality requirements.

Does Den Besten's observation that the verb moves to *C* in inversion constructions in Dutch lead to the conclusion that the verb also moves to *C* in subject initial constructions in Dutch?

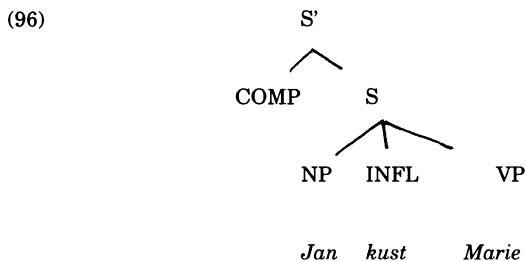
To see this, we have to ask whether an alternative landing site for the verb movement is available. This depends on where INFL is situated in Dutch. If INFL is situated to the right of the VP in Dutch, then verb movement must target *C*. On the other hand, if Dutch is like English, and INFL is located to the left of VP, verb preposing may target INFL in one case (subject initial main clauses) and *C* in another (inversion constructions). Therefore, this point is dependent on another problematic point, and hence, a problematic point in itself.

Suppose there is an INFL position to the left of the VP in Dutch.⁶⁰ Then we should wonder whether moving the verb to this INFL position in subject initial main clauses would violate any grammaticality requirements. If so, Den Besten's conclusion that all verb preposings target *C* still holds.

Consider sentence (95) and its analysis under the relevant assumptions (96):

⁶⁰ This was argued for German and Yiddish by Travis (1984).

- (95) **Jan** **kust** **Marie**
 John kisses Mary



It is not easy to see what would be wrong with the representation in (96) (assuming the VP is adorned with the required traces). The finite verb *kust* 'kisses' is in INFL, where the tense features are canonically located. The subject is in the 'structural subject position', where it is governed and assigned Nominative Case by INFL, as required by Case Theory (Chomsky 1981). (96) is a perfect structure.⁶¹

Thus, if there is an additional functional head to the left of VP in Dutch, it must be considered a serious candidate for hosting the verb in subject initial main clauses. Hence, it does not suffice to show that the verb moves to *C* in inversion constructions. It must be demonstrated for subject initial main clauses as well, or the hypothesis that there is V-to-*C* movement in subject initial main clauses must be rejected.

A different problem, closely related to the one discussed above, is posed by the behavior of subject clitics in subject initial main clauses. Recall that subject clitics have to be right adjacent to both the complementizer and the preposed verb in inversion constructions. If the verb always moves to *C*, one would expect subject clitics to always be right adjacent to the preposed verb. But this is not the case in subject initial main clauses:⁶²

⁶¹ The tree structure in the text follows Chomsky (1981). The conclusions would be the same if the structure of *S* (IP) proposed by Stowell (1981), adopted by Chomsky (1986b), is assumed.

⁶² Den Besten (1989:27) mentions that the 3SG subject clitic *ie* may not appear in the first position in subject initial main clauses. If we were correct in note 28, *ie*, which has a variant *die*, is an enclitic form of the nonneuter demonstrative pronoun *die*. All genuine subject clitics are fine in the first position. Crucially, *ie* likewise may not appear right adjacent to the verb in neutral constructions, which suggests that the verb has not moved to *C* in these constructions:

- (i) * **Heeft'ie** **Marie** **gekust** "He kissed Mary."
 has he Mary kissed

(continued...)

- (97) a. * **Heb'k Marie gekust** (declarative)
 have I Mary kissed
 "I have kissed Mary."
 b. **'k Heb Marie gekust**
 I have Mary kissed
 "I have kissed Mary."

So if the position of the subject clitics tells us that the verb is in *C* in inversion constructions, it likewise tells us that the verb is not in *C* in subject initial constructions.

A third problem of the generalized V-to-*C* hypothesis concerns the grammatical trigger for verb movement to *C*. Den Besten (1989, Chapter 1, Appendix II) assumes that *C* is a [+Tense] category, and he describes verb movement to *C* as 'Move Tense'. But the V-to-INFL hypothesis requires that Tense is located in INFL. If *C* is really a [+Tense] category, one would expect the tense morphology (or the tense features) to be generated in *C*, and this would leave us without a trigger for V-to-INFL movement. If the Tense morphology is located in INFL, then Tense cannot provide the trigger for the movement of the verb to *C*.

For this reason, it has been proposed that Tense is a feature of INFL, but that an independent language particular property requires that Tense be realized on the highest head (i.e. *C*) (cf. Platzack and Holmberg 1989).⁶² Perhaps this would make it possible for Tense to trigger verb movement to INFL, and for Tense itself to move to *C*, stranding the verb in INFL. But this would not work for all languages that show an asymmetry between main and embedded clauses with respect to verb placement. We may now have an account of the (vacuous) V-to-INFL movement in embedded clauses in Dutch, but on this account we would expect the finite verb in embedded clauses in Swedish to move to INFL as well, contrary to fact (see (89)).

A fourth problem of the generalized V-to-*C* hypothesis concerns the complementary distribution of the complementizer and the fronted finite verb. This complementary distribution is clearly visible in German, where the complementizer may be absent. In that case, the embedded clause has the main clause word order (see section 2.2).

⁶² (...continued)

(I neither share nor understand Den Besten's judgment that the 3SG weak (i.e. unstressed) pronoun *hij* may not occur to the immediate right of the complementizer or the verb in *C*.)

⁶³ The hypothesis that Tense must be realized on the highest head leads to the question whether CP is always present in neutral order main clauses. CP is typically the level for topicalizations and wh-movements. If CP is absent in other constructions, the proposed principle leads to the conclusion that the finite verb is in INFL in neutral order main clauses in Dutch. The hypothesis of I-to-*C* movement is also adopted in Stowell 1981, Pesetsky 1982, Evers 1982.

This complementary distribution is generally taken to provide an empirical argument for the correctness of the generalized V-to-C analysis (see e.g. Vikner 1995). But Travis (1991) correctly objects that it might be that the complementizer, if present, wields some power over a lower functional head (INFL), thereby making movement of the finite verb to INFL either superfluous or unnecessary (see also Zwart 1991a, 1991b).⁶⁴

The problem connected with the complementary distribution of complementizer and finite verb is the following. Suppose verb movement to *C* is triggered by the requirement that Tense be moved to the highest head. Assume that Tense is located in INFL, that INFL is located to the right of the VP, and that the verb moves to INFL in both main clauses and embedded clauses, because the verb has to be united with the tense morphology (or the tense features). Then, in embedded clauses, the presence of the complementizer blocks further verb movement to *C*. As a result, Tense will not be realized on the highest head, and we expect the construction in question to be ungrammatical. But this not the case, and it is unclear why.

3.3 The specifier position of CP

A third class of problems connected with the traditional analysis of verb movement in Dutch concerns the obligatory presence of a constituent preceding the fronted verb.

It is certainly observationally correct to characterize Dutch as a 'verb second' language. Neutral order main clauses, topicalizations, wh-constructions all have the finite verb in second position. Imperatives (98) and yes/no questions (99) have the finite verb in first position, but the particular character of these constructions makes it likely that the first position is actually occupied by an empty operator (cf. Katz and Postal 1964). The same is probably true of counterfactuals like (100):

⁶⁴ Travis (1984, 1991) argues that verb movement is necessary to fill up empty, ungoverned heads, as a consequence of the Empty Category Principle (ECP). In embedded clauses in German, INFL is governed by the complementizer, so no verb movement is necessary. In main clauses, the complementizer is absent and verb movement is needed to fill up the empty INFL position. Similarly in the complementizerless embedded clauses in German. Schwartz and Vikner (1989) argue against the ECP as a factor determining verb movement in Germanic. If they are correct, which I believe they are, that still does not disqualify the possibility that the complementarity of the complementizer and the fronted verb in Dutch and German involves two positions (INFL and COMP) rather than one (COMP alone).

- (98) **Kus Marie!**
 kiss Mary
- (99) **Kust Jan Marie?**
 kisses John Mary
 "Does John kiss Mary?"
- (100) a. **Had Jan Marie maar gekust**
 had John Mary but kissed
 "If only John had kissed Mary."
 b. **Had Jan Marie gekust, dan...**
 had John Mary kissed then
 "If John had kissed Mary, then..."

The obligatory verb second character of Dutch, then, appears to be the major explanandum of the grammar of this language. However, the traditional analysis offers no explanation for the fact that some constituent always has to precede the finite verb in Dutch. This is a serious inadequacy of the traditional analysis on any count.

It is clear from inversion constructions and embedded clauses that the subject in Dutch can be licensed in the specifier position of IP (the 'structural subject position'). If that is the case, it is not clear why movement of the verb to *C* triggers an additional movement of the subject to the specifier of CP. Assuming that a trigger for verb movement to *C* exists, even when the specifier position of CP is not occupied by a *wh*-element or a topic, this does not necessarily also force the subject to leave its licensing position and move on to the specifier position of CP. The crucial question in this respect is why Dutch neutral order main clauses are not VSO.⁶⁵

It is important to note that invoking a 'verb second constraint' to account for the position of the finite verb in main clauses in Dutch is merely a way of concealing the problem. A 'verb second constraint' naturally matches the observations, but does nothing to explain them.

One might suppose that a 'verb second constraint' forces the specifier of CP to be filled whenever *C* is filled. But this is an inadequate formulation, because nothing fills the specifier of CP when *C* is filled by a complementizer:

⁶⁵ Notice that the characterization of movement as 'move anything anywhere' does not make it unnecessary to formulate a trigger for obligatory movements. In other words, it must be made precise what grammaticality conditions are violated when the verb moves to *C* and the subject stays behind in the specifier position of IP if and only if no other constituent occupies the specifier position of CP.

- (101) **Piet zegt (*gisteren) dat Jan Marie gekust heeft**
 Pete says yesterday that John Mary kissed has
 "Pete says that John yesterday kissed Mary."

Moreover, it is clear from long distance movement constructions that the specifier position of CP must remain empty in embedded clauses in order to provide an intermediate chain position:

- (102) **Wie zei Piet t dat Jan t gekust had?**
 who said Pete that John kissed had
 "Who did Pete say John had kissed?"

Therefore, the requirement that the specifier of CP be filled must make specific reference to the proposed finite verb, which makes it *ad hoc*.

Finally, even if we allow the verb second constraint to be formulated in this way, it is still unclear why languages should differ in this respect. Again, one wonders why Dutch is not a VSO language like the Celtic languages or Arabic.

The problems connected with the specifier position of CP that the traditional analysis of Dutch syntax faces are in fact more complicated. The traditional analysis of Dutch contends that the finite verb always moves to *C* in main clauses. As a result, the placement of the subject to the left of the finite verb is regarded as a subcase of topicalization. However, there are clear differences between subjects and topics.

For example, object clitics may not appear in preverbal position in tensed main clauses, while subject clitics may (see section 1.5, and references cited there). An easy explanation for this would be to prohibit topicalization of weak elements, such as clitics, in general. But then the placement of the subject cannot be a subcase of topicalization, because this would exclude subject clitics in the first position of a finite clause. Travis (1984) solves this problem by assuming that INFL is located to the left of the VP in Dutch and German, and that the finite verb moves to INFL in main clauses, and to *C* in topicalizations and *wh*-constructions.

This latter point has received some attention in the literature and certain interesting proposals have been made to derive the asymmetry between subject clitics and object clitics in a way that leaves the generalized verb-to-*C* analysis unaffected (Holmberg 1986, Rizzi 1991). We will return to these proposals in section VI.3 (see also Zwart, to appear c).

3.4 Scrambling and Clitics

As we have seen, in the traditional analysis of Dutch syntax within the Government and Binding framework (around 1981), clitics, scrambled NPs, and sentence adverbials are all considered to be adjoined to VP. The order of elements is as in (103):

- (103) Clitics - Scrambled NP - Sentence Adverb - Non-Scrambled NP
- | | | | |
|-----|-----|-----|-----|
| [1] | [2] | [3] | [4] |
|-----|-----|-----|-----|

There are several unsatisfactory aspects of this analysis.

First, it is unclear why the Germanic clitics should be different from the Romance clitics. The latter are considered to be heads (Kayne 1975). For that reason, they have to adjoin to heads, not to phrasal categories (Baltin 1982). As several authors have shown, the Dutch clitics have the same head-like properties as their Romance counterparts (Koster 1978a, Everaert 1986, Zwart 1993c; see IV.2). It therefore seems appropriate to analyze the Dutch clitics as heads as well.

In subject initial main clauses in Dutch, nothing may intervene between the finite verb and the object clitic. Cf. (104), repeated from section 1.5:

- (104) **Jan heeft (*gisteren) 'r gekust**
 John has yesterday her kissed
 "John kissed her (yesterday)."

In these constructions, then, the object clitics appear to be adjoined to a head. A problem arises in inversion constructions, however. In Romance, the object clitic is pied piped with the verb, but in Germanic the clitic is stranded in a position to the right of the subject.

- (105) a. **L'a-t-il embrassé?**
 her has T he kissed
 "Did he kiss her?"
 b. * **A-t-il l'embrassé?**
 has T he her kissed
- (106) a. * **'r heeft Jan gekust?**
 her has John kissed
 b. * **Heeft'r Jan gekust?**
 has her John kissed
 c. **Heeft Jan'r gekust?**
 has John her kissed
 "Did John kiss her?"

This is presumably one of the reasons why the Dutch clitics have not generally been considered heads.⁶⁶

However, we have to note that this issue is intimately connected with the generalized V-to-C analysis. Assuming that the fronted verb is always in *C*, (106) tells us that the clitic cannot be adjoined to the verb in (104) either. This leaves the adjacency of the clitic and the verb in (104) a mystery, however. Similarly, it is unclear why the clitics have to be the leftmost VP-adjuncts, no matter how much scrambling goes on in the rest of the VP.

A second problem connected with the analysis of clitics and scrambling is the assumption that the sentence adverbs have a fixed position, namely adjoined to VP. It is clear from examples like (107) that adverbs can move further to the left:

- (107) a. **..dat gisteren Jan Marie gekust heeft**
 that yesterday John Mary kissed has
 "..that John yesterday kissed Mary."
 b. **..dat Jan gisteren Marie waarschijnlijk gekust heeft**
 that John yesterday Mary probably kissed has
 "..that John yesterday probably kissed Mary."

In (107a), *gisteren* 'yesterday' has moved to the left, crossing the subject *Jan* 'John'. In (107b), two sentence adverbials are present. The object, *Marie* 'Mary', appears to the left of one of the adverbs, *waarschijnlijk* 'probably'. Referring to the positions indicated in (103), it must have moved from position [4] to position [2]. Still to the left of the object is the other sentence adverb, *gisteren* 'yesterday'. This means that [3] in (103) cannot be the sole position of the sentence adverbials.

This implies that scrambling can actually take place to a position to the *right* of a sentence adverb. As a result, we do not have a single clue as to where the object noun phrase really is in a standard scrambling paradigm like (108):

- (108) a. **..dat Jan gisteren Marie gekust heeft**
 that John yesterday Mary kissed has
 b. **..dat Jan Marie gisteren gekust heeft**
 that John Mary yesterday kissed has
 "..that John kissed Mary yesterday."

A third problem related to scrambling, is the question how the scrambled object is assigned Case. In the Government and Binding framework, objects are assigned Case under government by the verb (or by the trace of the verb). 'Government' is defined as a relation between a

⁶⁶ A notable exception is Stowell (1981:221).

head and an element it c-commands (provided no other governors of the same element intervene). 'C-command' is a relation between elements in a tree structure such that the first branching node dominating the c-commander dominates the c-commandees.

If an object is scrambled away from the verb (or its trace), it is no longer c-commanded by the verb, hence it is no longer governed by the verb. Therefore, a scrambled object can only be assigned Case via the trace left behind in the scrambling process. This means that scrambled objects are formally comparable to topics and wh-elements, which likewise can only be assigned Case via the trace they leave behind as part of the movement operation. In other words, scrambling must be A'-movement.

We noted in section 2.3 that scrambling in Dutch has one property of A'-movement, namely that it creates a configuration in which parasitic gaps are licensed. However, it has been argued that scrambling in all other respects resembles A-movement, like Passive and Raising (Vanden Wyngaerd 1989a). For example, as already noted in Huybregts and Van Riemsdijk (1985), scrambling, unlike wh-movement and topicalization, does not yield weak crossover effects:

- (109) a. **Jan** **heeft iedereen op hun voorhoofd** **gekust**
 John has everyone on their forehead kissed
 "John kissed *everybody* on *their* forehead."
 b. ? **Wie** **hebben zijn ouders** **onterfd?**
 who have his parents disinherit
 "*Who* did *his* parents disinherit?"

The absence of weak crossover effects, as in (109a), in contrast to (109b), is considered to be a test for A-movement.

In A-movement, the trace is not assigned Case, but the movement targets a position in which the noun phrase in question can be assigned Case. If this is correct, our conception of scrambling in Dutch must change radically, because a position adjoined to VP is not the type of position in which Case is assigned, under standard assumptions of the Government and Binding framework.

3.5 Extraposition

A final problem of the traditional conception of Dutch syntactic structure touches on the status of Dutch as an SOV language.

Elements appearing to the right of the final verb position in Dutch are supposed to have moved there by a rightward movement called extraposition. It has been known since Ross (1967) that such rightward movements create *islands*, i.e. constituents out of which no extraction is possible.

However, Dutch sentential complements, though appearing to the right of the final verb position, are not islands:

- (110) *Hoe heeft Piet gezegd dat Jan zich t gedragen heeft?*
 how has Pete said that John himself behaved has
 "How did Pete say that John behaved himself?"

In this respect, there is a clear contrast with non-complement clauses (Hoekstra 1983, Bennis 1986):

- (111) * *Hoe is het tijd om je t te gedragen?*
 how is it time COMP you to behave
 "How is it time to behave?"

In (111), the embedded clause is an adjunct, and a clear island.

The fact that the embedded clause in (110) is not an island suggests quite strongly that it is in its basic position, and that no extraposition has taken place (thus Hoekstra 1987). This has led several authors to suggest that Dutch has two different complement positions for NP-arguments and sentential arguments, the former preceding the verb and the latter following it.⁶⁷

This, however, is incompatible with the important idea that the categorial status of arguments is irrelevant for the encoding of thematic relations into syntactic structure (see Pesetsky 1982, Chomsky 1986a, Baker 1988). In this respect, then, the traditional analysis is problematic, and, in fact, casts doubt on the basic assumption that Dutch is an SOV language (see Zwart 1994a, and chapter III below).⁶⁸

3.6 Conclusion

The crucial features of the traditional analysis of verb movement are all problematic. Verb movement to INFL in embedded clauses is always vacuous. The hypothesis that this movement takes place is based on the assumption that inflected verbs must occupy the INFL position in overt syntax. However, this is not necessarily the case, given the possibility of lowering INFL to the verb (or procrastinating verb movement until LF).

⁶⁷ See Koster 1978a, 1989; De Haan 1979; T.Hoekstra 1984, 1987; Bennis 1986.

⁶⁸ As Marcel den Dikken notes (p.c.), an additional argument against extraposition of sentential complements out of VP is the fact that the VP shows no 'freezing' effect. Thus, in *Wie heb je verteld dat je zou komen* [whom have you told that you would come] the VP headed by *verteld* 'told', out of which *dat je zou komen* 'that you would come' is supposedly extraposed, is still transparent, witness the extractability of the indirect object *wie* 'who'.

Verb movement to *C* can only be demonstrated in inversion constructions. The conclusion that this verb movement takes place in subject initial main clauses as well is based on the idea that a grammar containing fewer rules is more attractive. However, this evaluation metric is no longer valid in the Government and Binding approach, where all movement rules are reduced to one, *Move α* . Verb movement to *C* in subject initial main clauses therefore needs independent evidence, but the evidence that is available suggests that the verb in these constructions is not in *C* but in a lower functional head to the left of the VP. Finally, the transparency of clausal complements suggests that the position to the right of the verb in embedded clauses is their basic position. This in turn casts doubt on the assumption that Dutch is an SOV language.

4 A Minimalist Approach to Dutch Syntax

In this section, I will reexamine the phenomena of Dutch syntax from a minimalist perspective. First I will discuss the two basic assumptions underlying the traditional analysis of these phenomena: the hypothesis that Dutch is an SOV language and the hypothesis that the finite verb moves to *C* in all main clauses. Next I will review the problems of the traditional analysis discussed in section 3. It will turn out that these problems become even more serious when a minimalist approach is taken. Finally, I will sketch the outlines of an analysis of Dutch syntax which seems to be forced upon us by the assumptions of the Minimalist Program. This will serve as the starting point for the more detailed analysis of the syntax of Dutch in chapters V-VII.

4.1 Basic Assumptions

Recall that the two basic assumptions underlying the traditional analysis of Dutch syntax are the following:

1. Dutch is an SOV Language
2. In Dutch tensed main clauses the finite verb invariably moves to *C*

The Minimalist Program does not immediately affect the first of these assumptions. It is imaginable that when the verb and its object are first

merged in a binary operation, the direct object ends up to the left of the verb.

However, as pointed out in section I.2.4, the minimalist approach in its most restrictive implementation leaves no room for a parameter determining the position of the object with respect to the verb at this initial stage in the derivation. Moreover, such a parameter would be superfluous given the fact that word order variation can be derived from interactions of overt and covert movement.

In view of this, the question arises whether it is *necessary* to make a typological distinction between languages on the basis of their order of words in the initial stage of the derivation. We will return to this issue in chapters III and IV of this book, and I will argue there that, at least in Dutch, both the lexical heads and the functional heads take their complements on the right hand side.

The second assumption underlying the traditional analysis, according to which the finite verb invariably moves to *C* in main clauses in Dutch, appears to be incompatible with the minimalist approach.

First, according to Figure 1 in section I.2, the functional domain contains at least three head positions other than *C*. Therefore, Den Besten's (1977) conclusion that *C* is the only host available for the preposed verb is no longer valid.⁶⁹

Second, verb movement to *C*, if it takes place, must be triggered by the need to eliminate a strong inflectional feature represented in *C*. However, inflectional features have designated positions in the Minimalist Program: the tense features are located in *T*, the subject agreement (Nominative Case) features are located in *AgrS*. Even if these features are strong in Dutch, they cannot trigger verb movement to *C*.⁷⁰

Third, even if the verb moves to *C* in subject initial main clauses, there has to be a trigger for movement of the subject to the specifier position of *CP* in these constructions. Again, the relevant trigger must be a strong *N*-feature that has to be eliminated. However, the *N*-features for licensing the subject are not represented in *C* but in *AgrS*. Hence, unless the subject shows additional features which would warrant a further

⁶⁹ One could argue that in Dutch, the heads of the *AgrPs* and *TP* are situated to the right of the *VP*. This would make *C* the only available host for the preposed verb again. However, the exact location of the functional heads in Dutch is an empirical issue. We will return to this issue in chapter IV, where I will argue that all functional projections in Dutch are head initial.

⁷⁰ A way out would be to assume that tense has to end up on the highest functional head. This could trigger verb movement to *C*. However, this is relevant only if all clauses are *CP*s, which is not *a priori* clear. It is possible that subject initial main clauses are complete as *AgrSP*s. If so, the requirement that tense end up on the highest functional head would trigger verb movement to *AgrS*.

movement, it has to move to the specifier position of AgrSP, not CP. Movement of the subject to AgrSP, of course, is well attested in inversion constructions and embedded clauses. The default hypothesis appears to be that the subject ends up in AgrS in subject initial main clauses as well. If so, we must conclude that verb movement to *C* does not take place in subject initial main clauses in Dutch.⁷¹

The minimalist approach, then, suggests that a distinction be made in Dutch syntax between subject initial main clauses on the one hand, and topicalizations and *wh*-constructions on the other hand.⁷²

4.2 Problems of the Traditional Analysis 2

In section 3.3, it became clear that certain aspects of the traditional analysis of Dutch are problematic, even from the point of view of the theoretical framework underlying it (the Government and Binding framework). In this section, I will show that these aspects make the traditional analysis downright untenable from the point of view of the minimalist approach.

4.2.1 INFL

In the traditional analysis, it was assumed that the functional heads host inflectional *morphemes* rather than *features*. As a result, in embedded clauses in Dutch the verb must have moved to INFL (assuming that lowering is not an option, but see section 2.3.1). Consequently, INFL had to be located to the right of the VP in Dutch.

In the minimalist approach, the functional heads host inflectional *features* rather than *morphemes*. As a result, verbs are inserted in a structure (by means of Generalized Transformations) in fully inflected form. At some point in the derivation, the verb will have to move to the functional heads in order to check the features associated with its inflectional morphology. But this movement may take place before or after

⁷¹ This does not exclude the possibility, however, that subjects sometimes carry a topic feature, triggering additional movement to the specifier position of CP (Zwart 1991b). But there appears to be no evidence that this topic feature is *always* present. See also section VII.2.3.

⁷² Dutch, which does not have embedded verb movement, differs minimally from Icelandic (North Germanic) and Yiddish (West Germanic), which do. Whatever the factor is that blocks verb movement in embedded clauses in Dutch, this factor must be absent in Yiddish and Icelandic. See section VI.5.2 for more discussion.

Spell-Out. Movement after Spell-Out is even preferred, by the economy related principle of Procrastination.

Consequently, it is not surprising that the inflected verb should remain in a final position in embedded clauses in Dutch. We may assume that the verb is still in its base position, procrastinating movement into the functional domain. As a result, the position of the verb in embedded clauses in Dutch does not provide a single argument for the location of the functional heads in Dutch.

Recall from section 3.3 that the assumption that the finite verb moves to an inflectional head to the right of VP in embedded clauses is problematic anyhow. The movement is always vacuous, and predicts non-existing scope phenomena (Reuland 1990b). These problems disappear under the minimalist assumption that the verb does not move in overt syntax in embedded clauses in Dutch.

4.2.2 COMP

We have seen in section 4.1 that the assumption that the finite verb invariably moves to *C* in main clauses in Dutch is untenable in the minimalist approach. It comes as no surprise, therefore, that maintaining this assumption would yield the very problems noted in section 3.3.

In particular, Den Besten's (1977) argument in favor of the generalized verb-to-*C* analysis based on rule counting is not valid in the minimalist framework, any more than it was in the Government and Binding framework. The minimalist approach is unrestrictive in that it has no rules. On the other hand, it is very restrictive in that every movement must be motivated by a morphological licensing requirement.

Economy, in other words, is not an evaluation metric for rule systems, as it was in the Extended Standard Theory, but a principle requiring that every single movement be motivated independently of the total of movements in a particular grammar. For this reason, we cannot conclude from the fact that *some* movements in Dutch target *C*, that *all* movements in Dutch target *C*. Every single movement to *C* must be motivated independently in terms of elimination of inflectional features.

Tense and agreement appear to be the features triggering verb movement and noun phrase movement in subject initial main clauses. These features are represented in T and AgrS. For all we know, then, the relevant movements target the checking domain of these functional heads, not the checking domain of *C*. The adjacency of the subject and the finite verb indicates that the subject and the verb are in the specifier-head configuration of a single functional category, presumably AgrS.

In contrast, other features like [+topic] and [+wh] appear to be relevant in topicalizations and wh-questions. These features are

conventionally represented in *C* (as in Den Besten 1977). For all we know, then, these movements target the domain of *C*.

Therefore, from a minimalist point of view, the simplest analysis appears to involve two different movements, or, rather, two different targets for movement.

As we have seen, this analysis raises the question why verb movement is restricted to main clauses. The answer to this question mentioned in section 3.2 implies that the complementizer in *C* wields some power over the lower functional head so that this head need not be filled when the complementizer is present (cf. Travis 1984, 1991).

This answer is problematic, because it is not clear what kind of influence could prevent the lower functional head from being filled. It remains to be seen to what extent this part of the answer is compatible with the minimalist approach. However, the second part of the answer is very much in line with economy of derivation. If movement to the lower functional head is unnecessary because of the presence of the complementizer, this movement is automatically blocked by economy of derivation (Zwart 1991a).

We will return to this problem extensively in chapter VI. In the meantime, we may conclude that, as before, the complementary distribution of the complementizer and the fronted verb does not provide an argument for the generalized verb-to-*C* movement.

4.2.3 *The Specifier Position of CP*

In the traditional analysis, the specifier position of CP must always be filled. This is unexplained, even if the observation takes the form of a language particular and construction particular 'verb second constraint'.

A verb second constraint may match the observations, but should be derived in terms of movement of heads and phrases to the functional domain. Each of these movements must be explained independently in terms of eliminating strong inflectional features. These explanations, then, provide the real challenge for the analysis of verb movement in Dutch.

These explanations should take into account the differences existing between subjects and topics in Dutch that were briefly mentioned in section 3.3. These differences suggest that different features are involved in topicalizations and subject initial main clauses. If so, movement must target different positions in each case.

4.2.4 *Scrambling and Clitics*

In the traditional analysis, scrambling is optional movement of a noun phrase across a sentence adverb.⁷³ The scrambled category adjoins to the VP, but to the right of the clitics (which are adjoined to the VP as well). A basic assumption of this analysis is that sentence adverbs have a fixed position.

In a minimalist approach, this analysis cannot be maintained.

First, optional movements are not allowed in the Minimalist Program. Every movement is triggered by the need to eliminate a strong feature. If there is a strong feature that must be eliminated, movement cannot be optional, since the derivation will only converge when it takes place. The fact that the direct object and the verb (in embedded clauses) are not necessarily adjacent in Dutch indicates that at least sometimes the direct object moves away from the verb. Consequently, we must assume that direct objects in Dutch *always* move to a particular position. In other words, scrambling may seem to be optional, but in fact it is not.

Second, if direct objects in Dutch always move to a particular position, sentence adverbs cannot have a fixed position. This was already concluded in section 3.4. In particular, in a typical scrambling paradigm like (112), the direct object must be in a single position throughout, but the adverb must be further to the left in (112a) than it is in (112b). Consequently, it can no longer be maintained that sentence adverbs are always adjoined to VP.

- (112) a. **..dat Jan gisteren Marie gekust heeft**
 that John yesterday Mary kissed has
 b. **..dat Jan Marie gisteren gekust heeft**
 that John Mary yesterday kissed has
 "..that John kissed Mary yesterday."

Third, movement of the direct object cannot target VP, because the position adjoined to VP is not known as a position for licensing inflected elements. In the minimalist approach, it is more likely that the noun phrase movement targets the specifier position of AgrOP (Vanden Wyngaerd 1989a). This is the designated position for checking the Case features of the direct object. Assuming that the N-feature of AgrO is strong in Dutch, the need to eliminate these features yields a trigger for the noun phrase movement.

We have seen in section 3.4 that scrambling in Dutch has one property of A'-movement: it creates the configuration needed for parasitic gap

⁷³ Recall that the term *scrambling* is used here to refer to movement that does not permute the meaningful elements subject, indirect object, and direct object.

licensing. If we now assume that scrambling is movement to a position where Case is checked, we expect scrambling to look more like A-movement. Much recent research suggests that this is in fact the case, as already pointed out in section 3.4. Thus, scrambling in Dutch is strictly local, creates new configurations for binding relations (i.e. does not involve reconstruction), and does not give rise to weak crossover effects (see Vanden Wyngaerd 1989a, Mahajan 1990).

Finally, if neither scrambled noun phrases nor sentence adverbs are adjoined to VP, object clitics (which appear to the left of both scrambled noun phrases and sentence adverbs) cannot be adjoined to VP either. This accords well with the generally held idea that clitics must adjoin to a functional head (Baltin 1982, Kayne 1991, Sportiche 1992).⁷⁴

4.2.5 *Extraposition*

In the traditional analysis, it is assumed that elements appearing to the right of the verb in embedded clauses have undergone movement to the right (extraposition). This was shown to be problematic because 'extraposed' clausal complements are not islands.

In the minimalist analysis, extraposition is an impossible movement. All movements must be triggered by the need to eliminate inflectional features, and for this reason they must target designated positions. There is no known position to the right of the final verbal position designated for checking inflectional features. Similarly, there is no inflectional feature all extraposed elements have in common.

Extraposition, then, should not be part of a minimalist analysis of Dutch.⁷⁵

It will turn out that this conclusion has interesting consequences for the assumption that Dutch is an SOV language. This issue will be

⁷⁴ Fontana (1992) and Cardinaletti and Starke (1995) explore the possibility that (some) clitics are phrasal elements. We will return to the question whether clitics in Dutch are heads or phrases in section IV.2.

⁷⁵ Kayne (1994) proposes restrictive conditions on phrase structure which do not permit more than one XP to be adjoined to the projection of a given head. Consequently, if the specifier position is filled (the specifier of a head α is technically adjoined to α , for instance by the singular operation Merge), no further adjunction is allowed. This excludes extraposition, which involves adjunction to the VP or higher. Kayne also proposes that linear order is a function of hierarchical order, excluding adjunction to the right. Again, this makes the traditional extraposition analysis impossible. For discussion of the many problems yielded by this restrictive approach, see Kaan (1992), Kayne (1994), Barbiers (1995), and Buring and Hartmann (1996).

addressed in chapter III (see also Zwart 1993b, chapter IV, and Zwart 1994a).

4.2.6 Conclusion

The problems the traditional analysis of Dutch syntax faced in the Government and Binding framework still exist in the minimalist framework. If the minimalist approach is adopted, many additional problems for the traditional analysis arise, and certain key aspects of the analysis turn out to be untenable.

This is particularly true of the two basic assumptions underlying the traditional analysis. The assumption that Dutch is a basic SOV language is questionable from the point of view of possible parametric variation. The assumption that the finite verb invariably moves to *C* in main clauses would not be a straightforward implementation of the Minimalist Program.

4.3 Dutch Syntax: A Minimalist Approach

Let us now return to the phenomena of Dutch syntax described in section 1, and see how these phenomena might be analyzed from a minimalist point of view.

Consider first the difference between tensed main clauses and untensed main clauses (section 1.2):

- (113) a. **Jan** **kust** **Marie**
 John kisses Mary
 "John kisses Mary"
- b. * **Jan** **Marie** **kust**
 John Mary kisses
- (114) a. * **Jan** **kussen** **Marie**
 John kiss Mary
- b. **Jan** **Marie** **kussen**
 John Mary kiss
 "John kiss Mary."

Finite verbs move up front, infinitives do not. This is also clear from constructions containing more than one verb:

- (115) a. **Jan** **heeft** **Marie** **gekust**
 John has Mary kissed
 "John (has) kissed Mary."
 b. * **Jan** **heeft** **gekust** **Marie**
 John has kissed Mary
 c. * **Jan** **Marie** **heeft** **gekust**
 John Mary has kissed
 d. * **Jan** **Marie** **gekust** **heeft**
 John Mary kissed has

Only the finite verb moves to the left, the non-finite verb stays behind.

Finite verbs in Dutch express both tense and subject agreement. Non-finite verbs express neither tense nor agreement. Apparently, verb movement is a function of tense and/or agreement.

In the minimalist approach, the features for tense and subject agreement are represented in the functional heads T and AgrS. We may now hypothesize that T and/or AgrS have a strong V-feature. This feature must be eliminated before Spell-Out, therefore the verb carrying the corresponding features (the finite verb) moves to T and/or Agr, in violation of Procrastination. Assuming, as we have done, that AgrS is higher than T, it must be the case that the finite verb moves to AgrS, via T.

However, this hypothesis yields a problem, since finite verbs do not move to the left in embedded clauses:

- (116) a. * **..dat** **Jan** **kust** **Marie**
 that John kisses Mary
 b. **..dat** **Jan** **Marie** **kust**
 that John Mary kisses
 "..that John kisses Mary."

In (116a), it is unclear why the finite verb *kust* 'kisses' does not have to move to the position it apparently moves to in (113a).⁷⁶ Therefore we may have to reject the hypothesis that a strong V-feature of T and or AgrS triggers the verb movement in (113) and (115).

We could try to avoid this problem by assuming that in (116) the complementizer occupies the AgrS position, so that the movement of the verb to AgrS is blocked. But this does not solve anything, because if the movement is blocked, the strong V-feature triggering the movement would not be eliminated, and the derivation would crash at PF.⁷⁷

Therefore, something else must be going on. This will be the main problem to be discussed in chapter VI. Recall that functional heads carry

⁷⁶ Recall that in the minimalist approach, 'not having to' amounts to 'not being allowed to'.

⁷⁷ For the same reason, assuming that the verb moves to C in (113) and (115) does not solve the problem why verb movement is restricted to main clauses.

both V-features (triggering head movement) and N-features (triggering XP-movement). Assuming that the verb in (113) and (115) is in a derived position, there must be an N-feature triggering movement of the subject to a position in the functional domain in at least (113) and (115).

In subject initial main clauses, the subject is adjacent to the finite verb:

- (117) * **Jan** **altijd** **kust** **Marie**
 John always kisses Mary

This suggests that the subject is in a local licensing relation with the head hosting the finite verb. If the finite verb moves to AgrS, the subject must be in the spec position of AgrS.

In this position, the N-features of AgrS are checked off against the inflectional features of the subject (person, number, and Case).⁷⁸ These N-features, therefore, must be strong. If so, it is expected that the subject occupies the spec position of AgrS in embedded clauses as well. (116) suggests that this is indeed the case, as the subject follows the complementizer, which is in C.

The hypothesis that the N-features of AgrS are strong appears to account for the distribution of the subject. How exactly the analysis of Dutch verb movement works out will be the main problem to be studied in chapter VI. The phenomena of complementizer agreement (IV.3) and the theory of feature checking (chapter V) will be crucial to the analysis presented there. It will turn out that the functional head AgrS moves to C if and only if C is present, and that this AgrS-to-C movement obviates the need for V-to-AgrS movement. I will argue that AgrS-to-C movement has a morphological reflex in the phenomenon of complementizer agreement in various dialects of Dutch.

Let us next consider the distribution of elements in topicalizations and wh-constructions. These constructions show subject-verb inversion:

- (118) a. * **Weer** **Jan** **kust** **Marie**
 again John kisses Mary
 b. **Weer** **kust** **Jan** **Marie**
 again kisses John Mary
 "Again John kisses Mary."

⁷⁸ The picture is slightly more complicated if the N-feature for Case is represented in T.

- (119) a. * **Waarom Jan kust Marie?**
 why John kisses Marie
 b. **Waarom kust Jan Marie?**
 why kisses John Mary
 "Why does John kiss Mary?"

Topics and wh-elements typically move to a position in the left periphery of the clause. In the minimalist approach, these movements must be triggered by the need to eliminate a morphological feature. Chomsky (1993:32) proposes to include features like [+topic], [+wh] in the set of morphological features. Assuming (with Koster 1975, Den Besten 1977, Chomsky 1977) that topicalization and wh-movement involve movement to the CP-domain, these features must be characterized as N-features of the head of CP, *C*.

The sentences in (118)-(119) suggest that the features [+topic] and [+wh] are strong in Dutch.⁷⁹ This would explain the preposing of the non-subjects.

But again, this does not suffice to explain the distribution of the verb in these constructions.

Now we may assume that *C* also has a strong V-feature associated with topicalization and wh-movement, such that verb movement to *C* is required whenever the [+topic] feature or the [+wh] feature are present in *C* (i.e. in topicalizations and wh-constructions). The fact that English topicalizations do not, or not always, require verb movement, could then be explained as an instance of parametric variation of the strength of the relevant features in *C*. Compare (118) with (120):

- (120) a. **Again John kisses Mary**
 b. * **Again kisses John Mary**

For the moment this will suffice as an hypothesis, but we will see in chapter VII that this analysis must ultimately be rejected for an analysis linking the verb preposing in topicalizations and wh-constructions to AgrS-to-*C* movement.

Let us next consider scrambling and clitic placement.

Clitic placement is not addressed in Chomsky (1993). Sportiche (1992) proposes that clitics are generated as functional heads in the clause structure. However, also in this analysis, clitics must be allowed to undergo head movement. It is not clear whether this clitic movement can be accounted for in terms of feature checking requirements, as is desirable

⁷⁹ Watanabe (1992) suggests that the wh-feature is universally strong. He argues that in so-called wh-in-situ languages like Japanese the wh-feature is eliminated by movement of an empty operator to the spec position of CP.

in a minimalist approach. We will return to the analysis of cliticization in sections IV.2 and VII.3.

In contrast, the Minimalist Program appears to fit scrambling like a glove. Consider the standard scrambling paradigm in (121):

- (121) a. **..dat Jan gisteren Marie gekust heeft**
 that John yesterday Mary kissed has
 b. **..dat Jan Marie gisteren gekust heeft**
 that John Mary yesterday kissed has
 "..**that John kissed Mary yesterday.**"

Recall that the minimalist approach does not allow optional movement. Consequently, the movement of the object which is clearly visible in (121b) must also be present in (121a). The obvious hypothesis, therefore, is that the N-feature of AgrO is strong in Dutch, triggering movement of the object to the specifier position of AgrOP.

If this is correct, the N-features of both AgrS and AgrO are strong. Chomsky (1993:8) argues that there should be a symmetry between the the inflectional systems associated with the subject and the object. In other words, the feature specifications of both Agr heads should be identical, in the ideal case. This appears to be the case in Dutch.

Consider the consequences for adverbs. It must be possible to generate these in various positions in the course of the derivation of a sentence. But this is an attractive consequence. If adverbs are not freely generated, they too must undergo movement. This movement should be triggered by the need to license inflectional features. But at present it is unclear what features are associated with adverbs, and where in the functional domain these features would be represented. Therefore, the assumption that adverbs are freely generated is not unattractive.

Many other problems are associated with scrambling in Dutch. Some of these will be discussed in section III.2.

Turning to extraposition finally, this type of movement is not possible in the minimalist approach, as we have seen. There is no known specifier to the right of the VP in which the features of extraposed elements could be checked. Also, this type of movement is excluded by the conditions on phrase structure advanced in Kayne (1994) (see note 75). What, then, explains the relevant word order patterns?

Recall that there are two sets of extraposition facts. Clausal complements *must* appear to the right of the final verbal position:

- (122) a. **..dat** **Piet** **zei** **dat** **Jan** **Marie** **kuste**
 that Pete said that John Mary kissed
 "..that Pete said that John kissed Mary."
 b. * **..dat** **Piet** **dat** **Jan** **Marie** **kuste** **zei**
 that Pete that John Mary kissed said

All other extraposed material may also appear to the left of the final verbal position (illustrated here for adjunct clauses):

- (123) a. **..dat** **Jan** **Marie** **kuste** **toen de film** **begon**
 that John Mary kissed when the movie started
 "..that John kissed Mary when the movie started."
 b. **..dat** **Jan** **Marie** **toen de film** **begon** **kuste**
 that John Mary when the movie started kissed
 "..that John kissed Mary when the movie started."
 c. **..dat** **Jan** **toen de film** **begon** **Marie** **kuste**
 that John when the movie started Mary kissed
 "..that John kissed Mary when the movie started."
 d. **..dat** **toen de film** **begon** **Jan** **Marie** **kuste**
 that when the movie started John Mary kissed
 "..that when the movie started John kissed Mary."

We may set the latter category apart, and consider them to be freely generated in the course of a derivation. We must make the same assumption to account for the fact that adverbs occupy various positions in the scrambling paradigm.⁸⁰

Clausal complements, on the other hand, appear to be internal arguments of a verb. An implicit assumption in the minimalist approach is that Generalized Transformations first join a head and its internal argument. If no movements take place, the verb and the complement clause are both in their initial positions in (122a).

Do complement clauses undergo movement? To answer this question, we should look for inflectional features associated with the complement clause, and for functional projections in which these features should be licensed. In the absence of established knowledge in this respect, we should conclude that complement clauses, at least those of the Dutch type, do not undergo movement. This is corroborated by the fact that these clauses are not islands, as we have seen.

The observation that clausal complements in Dutch are not islands must be accounted for in terms of bounding theory. I will assume, following Chomsky and Lasnik (1993), that the notion of *L-marking* (Chomsky 1986b) is crucial in this respect. I will make the following assumptions. A maximal projection is transparent only if it is L-marked. A projection is L-marked only if its sister is an L-related element. An

⁸⁰ See Kaan (1992) for an analysis of 'extraposition' of these elements.

element is L-related only if it is a lexical head or a functional head hosting features associated with a lexical head. Hence, clausal complements are L-marked by the lexical head V if they are in their basic position.

If this is correct, it may very well be the case that Dutch has a basic SVO structure.

In the remainder of this book, this minimalist analysis of the syntax of Dutch will be developed in more detail. The two assumptions underlying the traditional analysis will be addressed in turn. In chapters III-IV, I will argue that all projections in Dutch are head initial. In chapters VI-VII, I will propose a minimalist analysis of verb movement in Dutch.

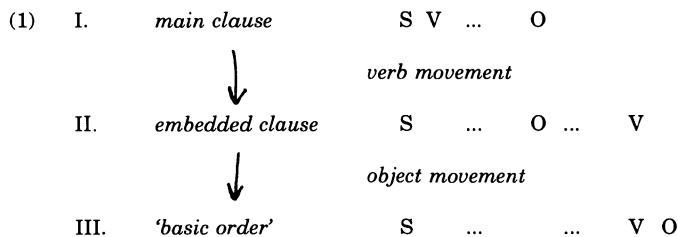
III

DUTCH AS AN SVO LANGUAGE

In chapter II we have seen that the traditional analysis of the syntax of Dutch was based on the assumption that Dutch is an SOV language. This assumption itself was based on Koster's (1975) analysis of verb movement in Dutch. Koster demonstrated that the SVO word order in subject initial main clauses is derived from an underlying SOV word order by a rule fronting the finite verb. The SOV word order is still visible in embedded clauses, where the verb movement does not take place.

This book does not challenge Koster's conclusion that the main clause word order is derived from the embedded clause word order. Research in the Government and Binding framework has shown that the verb fronting rule proposed by Koster is not an isolated phenomenon of Dutch, but a phenomenon that shows up in one form or another in many languages. Crucially, no languages have been discovered that employ a rule moving the verb from the second position to the final position in the sentence. So, the rule that would derive the embedded clause word order from the main clause word order in Dutch would have to be classified as *ad hoc*.

However, it is not clear that Koster's analysis of verb movement in Dutch necessarily leads to the conclusion that Dutch is an SOV language. It could be that the embedded SOV order is derived via object raising from an underlying SVO order, which never surfaces (except, perhaps, when the verb's complement is a clause). Thus, the derivation of main clauses in Dutch could run as follows (ignoring the question of the basic position of the subject):



I have argued elsewhere that this is in fact the case (Zwart 1993b:chapter IV, 1994a, 1995a,b, to appear a, to appear b). In this chapter, I will briefly recapitulate the argumentation.

Section 1 presents arguments of a general, typological nature. Sections 2 and 3 discuss complement noun phrases and Small Clause predicates. These two categories are generated in the complement domain of the verb, and invariably appear to the left of the verb in embedded clauses. Therefore, the hypothesis that Dutch is head-initial can only be maintained if complement noun phrases and Small Clause predicates are always in a derived position in Dutch.

1 Typological Arguments

1.1 Kayne (1992)

The question whether superficially head final languages might not in fact be head initial was put on the research agenda by Kayne (1992). The argumentation presented by Kayne at that point was essentially of a typological nature.¹

Kayne observed that many grammatical phenomena of well studied head initial languages do not occur in mirror image format in well studied head final languages. For example, even though the VO and OV patterns are more or less evenly divided among the languages of the world, there seems to be an overwhelming preference for the subject to appear to the left of the object (cf. Greenberg 1963:77). In other words, OV and VO languages do not present complete mirror images of each other. This suggests that there is a limit to the word order variation across languages.

More generally, phenomena which are analyzed as involving movement to a specifier position (raising to subject position, wh-movement, topicalization, etc.) seem to be uniform across the well studied languages

¹ Kayne (1994) is in part an attempt to derive the empirical observations presented in Kayne (1992) from a restrictive theory of phrase structure.

of the world. In each case, these phenomena appear to involve movement to the left.

Kayne (1992) illustrates this point among other things with the example of subextraction of the complement of a preposition (*preposition stranding*). In English, a typical head initial language, preposition stranding involves movement to the left:

- (2) **Who did you talk to ?**

There appears to be no head final language that shows subextraction of the complement of a preposition to the right:

- (3) ... [_{PP} *t* P] ... XP

Considerations like these lead Kayne (1992) to propose that specifiers are invariably located to the left.

Similarly, there appears to be no known case of head movement to the right. Consider verb movement. English has a fair amount of verb second phenomena, notably in *wh*-constructions and certain other constructions involving movement of a phrase to sentence initial position. This being the case, we might expect the mirror image language of English to have 'verb second but last'. But the existence of such a language has not been brought to our attention so far.

This may lead one to hypothesize that head movement, like movement to specifier position, is always leftward. For this reason, Kayne (1992) proposes that phrases are universally built up as in (4), with specifiers to the left, and complements to the right of the projection line:

- (4)
-
- ```

graph TD
 XP1[XP] --- specifier[specifier]
 XP1 --- XP2[XP]
 XP2 --- Xdeg[X°]
 XP2 --- complement[complement]

```

This hypothesis is obviously very strong. A whole range of phenomena, particularly in the syntax of rigid head final languages like Japanese, seems to contradict it at once. On the other hand, rejecting Kayne's hypothesis leaves a host of empirical observations, crucially involving the *absence* of expected phenomena, to be accounted for.

## 1.2 Dutch versus English

From a typological point of view, Dutch and English are very much alike.

Like English, Dutch does not seem to have any specifiers to the right of the projection line, or clear cases of head movement to the right. Preposition stranding involves movement to the left.<sup>2</sup>

- (5) a. **Waar heb je over gepraat ?**  
 where have you about talked  
 "What did you talk about?"
- b. **Tussen welke bomen ben je door gelopen ?**  
 between which trees are you through walked  
 "Which trees did you walk through?"

Crucially, extraposition, even if it is movement to the right, cannot involve preposition stranding. In (5b), the fronted PP *tussen de bomen* 'between the trees' is a complement of the stranded preposition *door*. The complex *tussen de bomen door* as a whole means 'through the trees'. This meaning is lost when the PP *tussen de bomen* is extraposed:

- (6) **Hij is door gelopen tussen de bomen**  
 he is through walked between the trees  
 "He walked on between the trees."  
 \*"He walked through the trees."

In (6), the preposition *door* is construed with the verb *gelopen* 'walked', yielding the complex *door gelopen* 'continued walking'. The PP *tussen de bomen* cannot be construed as the complement of *door*, but must be analyzed as an independent adjunct PP.

Verb movement to the left in Dutch has been amply illustrated in chapter II. As we have seen there, the only cases of head movement to the right that have been proposed involve vacuous verb movement, for which no evidence exists.

In other words, even though Dutch has been analyzed as an OV-language, it does not pattern as the mirror image of a typical VO-language like English.

More generally, Dutch and English will be grouped together by most typological word order criteria. Thus, in both Dutch and English determiners precede noun phrases (7), complementizers are clause initial (8), adjectives precede nouns (9), genitives precede nouns (10), PP complements follow nouns (11) and adjectives (12), the comparative

<sup>2</sup> In Dutch, noun phrases can only marginally be extracted out of PPs. Extraction out of PP is fully grammatical, however, when the noun phrase is replaced by a locative demonstrative or interrogative pronoun (cf. Van Riemsdijk 1978).

precedes the standard (13), prepositions precede their complement (14), indirect objects precede direct objects (15), and the linear order of verbs (16) generally reflects their hierarchical order:

- (7) a. **het boek**  
the book  
b. \* **boek het**  
\* book the
- (8) a. **dat het regent**  
that it rains  
b. \* **het regent dat**  
\* it rains that
- (9) a. **oude boeken**  
old books  
b. \* **boeken oude**  
\* books old
- (10) a. **Jan's boek**  
John's book  
b. \* **boek Jan's**  
\* book John's
- (11) a. **de verwoesting van Rome**  
the destruction of Rome  
b. \* **de van Rome verwoesting**  
\* the of Rome destruction
- (12) a. **trots op Marie**  
proud of Mary  
b. ? **op Marie trots**<sup>3</sup>  
\* of Mary proud
- (13) a. **groter dan verwacht**  
bigger than expected  
b. \* **dan verwacht groter**  
\* than expected bigger

<sup>3</sup> In attributive constructions, the adjective is adjacent to the head noun, leaving PP-A-N as the only grammatical order (*de op zijn vrouw trotse man* [the of his wife proud man]). Notice that the PP may be separated from the adjective by adverbs (*de op zijn vrouw nog altijd trotse man* [the of his wife yet always (=still) proud man]).



- (14) a. **van Marie<sup>4</sup>**  
       of Mary  
       b. \* **Marie van**  
           \* Mary of
- (15) a. **..dat Jan Marie het boek gaf**  
       that John Mary the book gave  
       "..that John gave Mary the book."  
       b. ?? **..dat Jan het boek Marie gaf**  
           that John the book Mary gave  
           \*"..that John gave the book Mary."
- (16) a. **..dat Jan moet kunnen komen**  
       that John must can-INF come-INF  
       "..that John must be able to come."  
       b. \* **..dat Jan komen kunnen moet**  
           that John come-INF can-INF must  
           \*"..that John to come be able must."

Whatever the value of these observations for determining the typological status of languages, the important point remains that Dutch and English behave so much alike. This suggests that the differences that exist between Dutch and English should not be described in terms of a grand parameter that puts the two languages in separate typological classes. In this book, I argue that Dutch and English differ with respect to object movement and verb movement. In the minimalist approach, this difference is described in terms of the strength of the morphological features involved in licensing verbs and noun phrases. Apart from that, there seems to be no need to postulate different structures for English and Dutch.

### 1.3 Dutch versus Other Germanic Languages

In describing the word order patterns in the Germanic languages, two factors seem to be of prime importance.

First, languages may or may not have verb movement in main clauses. We will say that a language has verb movement in main clauses if the

<sup>4</sup> Dutch has a number of postpositional PPs and circumpositional PPs. The circumpositional PPs have a  $[[_{PP} P DP ] P ]$  structure, in which the PP is not necessarily adjacent to the P (Van Riemsdijk 1990). I have argued elsewhere that the postpositional PPs pattern with the circumpositional PPs (for instance, both types are necessarily predicational), leading me to believe that postpositional PPs are actually circumpositional PPs with an empty P (Zwart 1994b).

subject and the verb are necessarily adjacent. This criterion sets English apart from all other Germanic languages:

- |      |    |                                                        |         |
|------|----|--------------------------------------------------------|---------|
| (17) | a. | <b>John (probably) bought the book</b>                 | English |
|      | b. | <b>Johan (*sannolikt) köpte boken</b>                  | Swedish |
|      |    | John    probably    bought    book-the                 |         |
|      | c. | <b>Jan (*waarschijnlijk) kocht het boek</b>            | Dutch   |
|      |    | John    probably                    bought    the book |         |

In (17), Swedish represents the Scandinavian languages (Swedish, Danish, Norwegian, Icelandic), and Dutch the Continental West Germanic languages (Dutch, Frisian, German, Yiddish). As can be seen, only English allows adverbs to intervene between the subject and the verb. This shows that English lacks the verb movement that is one of the characteristics of all the other Germanic languages.<sup>5</sup>

Of the Germanic languages that have the verb movement illustrated in (17), Yiddish and Icelandic stand apart in that they have this verb movement obligatorily in embedded clauses as well (see (19d) for illustration). The other Germanic verb movement languages show the verb movement asymmetry discussed in I.1.2.1:<sup>6</sup>

- |      |    |                                                             |         |
|------|----|-------------------------------------------------------------|---------|
| (18) | a. | <b>..att Johan sannolikt köpte boken</b>                    | Swedish |
|      |    | that John    probably    bought    book-the                 |         |
|      | b. | <b>..dat Jan waarschijnlijk het boek kocht</b>              | Dutch   |
|      |    | that John    probably                    the book    bought |         |
|      |    | "..that John probably bought the book."                     |         |

Second, languages may or may not have object movement. A language has object movement if the object may appear to the left of sentence adverbs. Generally, the sentence negation element is taken to provide the crucial test. This criterion sets Dutch and Icelandic apart from English and the Mainland Scandinavian languages (Swedish, Danish, Norwegian):

<sup>5</sup> Modal verbs and auxiliaries appear to occupy a different position from finite lexical verbs in English. Modal verbs and auxiliaries precede *not* (*John has not bought the book*), finite lexical verbs do not occur in negative sentences (instead, the periphrastic *do*-construction is used: *John did not buy the book*). Notice that the absence of negative sentences with finite lexical verbs does not allow us to draw conclusions as to the position of finite verbs with respect to *not*. At any rate, even modals and auxiliaries do not undergo the same verb movement as the verbs in the other Germanic languages, as adverbs are still allowed to intervene between the verb and the subject (*John probably has not bought the book*).

<sup>6</sup> Swedish and Frisian show embedded verb movement in a number of well defined contexts, but not across the board (see De Haan and Weerman 1986, Vikner 1993, Vikner 1995, Iatridou and Kroch 1992). The same is true for colloquial Dutch (Zwart 1993b:284f).

- (19)

a.

..that

John

did

not

buy

the

book

English
- b.

..att

Johan

inte

köpte

boken
- Swedish

c.

..dat

Jan

het

boek

niet

kocht

Dutch

d.

..að

Jón

keypti

bókina

ekki

Icelandic

that

John

not

bought

book-the

not

Notice that in Icelandic, the finite verb *keypti* ‘bought’ precedes both the object and the sentence negation element. This is because Icelandic has verb movement to the second position in embedded clauses as well as in main clauses.

We can summarize these word order generalizations in the following table:

|                  | verb movement | object movement |
|------------------|---------------|-----------------|
| English          | -             | -               |
| Dutch-main       | +             | +               |
| Dutch-embedded   | -             | +               |
| Swedish-main     | +             | -               |
| Swedish-embedded | -             | -               |
| Icelandic        | +             | +               |

TABLE 1

A second table shows the surface word order of the four types of Germanic languages:

|                  | word order |
|------------------|------------|
| English          | VO         |
| Dutch-main       | VO         |
| Dutch-embedded   | OV         |
| Swedish-main     | VO         |
| Swedish-embedded | VO         |
| Icelandic        | VO         |

TABLE 2

Now it is easy to see that the VO/OV status of the languages/sentence types can be derived from the properties summarized in table 1. The derivation runs as follows:

- (20) a. If a sentence is [+ verb movement], its word order is VO.  
 b. If a sentence is [- verb movement], then  
 (i) if it is [+ object movement], its word order is OV, and  
 (ii) if it is [- object movement], its word order is VO.

It follows that there is no need for a separate OV/VO parameter to distinguish the properties of the four types of Germanic languages. In particular, the OV character of the embedded clauses in Continental West Germanic is contingent on the occurrence of object movement.

Note that this conclusion can only be drawn if object movement is taken to be obligatory. This, however, is a desideratum of the minimalist approach. Movement is triggered by a morphological feature checking requirement. The movement is overt when the relevant feature is strong. If the relevant feature is strong, movement has to take place in overt syntax.

In the next section, we will discuss whether it can be maintained that scrambling (object movement) in Dutch is obligatory.

## 1.4 Conclusion

Typological observations do not call for a distinction between English and Dutch in terms of a parameter that governs the position of a head with respect to its complement. Only the OV order in embedded clauses can be made compatible with the hypothesis that Dutch is a head final (or mixed

branching) language. Whether it is justified to characterize Dutch as an OV-language depends on the status of object movement in Dutch.

## 2 Scrambling in Dutch

### 2.1 Preliminaries

This section takes as a starting point the hypothesis that the internal argument of a verb  $\alpha$  is generated as a sister of  $\alpha$ .<sup>7</sup> In minimalist terms, a verb is merged with its internal argument via a binary Generalized Transformation. Alternatively, we could say that whatever is merged with  $\alpha$  counts as  $\alpha$ 's internal argument.<sup>8</sup>

Assuming this, we have to conclude from the nonadjacency of the verb and the direct object in (21) that some of the elements have been displaced:

- (21)      ..dat    Jan   Marie   gisteren   gekust heeft  
              that   John   Mary   yesterday   kissed has  
              "..that John kissed Mary yesterday."

There is a consensus in the literature that the displaced element in (21) is the direct object *Marie* (see section II.2.3).

The question, then, is not whether Dutch has object movement. The question is whether this object movement is obligatory. In other words, are we allowed to conclude that even when the verb and the direct object are adjacent, as in (22), the direct object has been moved to the left?

<sup>7</sup> This hypothesis finds its roots both in the American structuralist immediate constituent analysis and in the tradition of rational grammar dating back to the Port Royal grammarians. In the Government and Binding framework, it was expressed in a sisterhood condition on theta role assignment (Chomsky 1986b:14). In Chomsky (1993:12), the sister of a verb is singled out as the verb's internal domain. Chomsky (1993:13) slightly deviates from the hypothesis that internal arguments are generated as sisters of the relevant verb by including the specifier position of a verb  $\alpha$  in the internal domain of  $\alpha$  after  $\alpha$  has moved to an immediately higher head.

<sup>8</sup> The alternative formulation implies that unergative verbs have a hidden internal argument, and that Small Clause complements are internal arguments. For unergative verbs, see Hale and Keyser (1993). For the relation between a verb and its Small Clause sister, see Mulder (1992).

- (22) a. **..dat Jan gisteren Marie gekust heeft**  
           that John yesterday Mary kissed has  
           "..that John kissed Mary."  
       b. **..dat Jan een meisje gekust heeft**  
           ..that John a girl kissed has  
           "..that John kissed a girl."

Recall that in the minimalist approach, the object movement in (21) is described as being triggered by the presence of strong morphological features in a functional head (AgrO), which have to be checked in overt syntax. The default hypothesis, then, is that the object movement takes place always, also in (22).

From this perspective, the position of the adverb in (22a) is irrelevant. We must assume that adverbs may be generated in various positions (see II.3.4). However, adverbs appear to be relevant for the position of indefinite objects. It has been observed that indefinite objects appearing to the left of adverbs acquire a specific reading (Kerstens 1975, De Hoop 1992).<sup>9</sup>

- (23) a. **..dat Jan gisteren een meisje gekust heeft**  
           that John yesterday a girl kissed has  
           "..that John kissed a girl yesterday."  
       b. **..dat Jan een meisje gisteren gekust heeft**  
           that John a girl yesterday kissed has  
           "..that John kissed a (particular) girl yesterday."

The pattern in (23) has been described as follows. The indefinite object acquires a particular, nonexistential reading because it moves out of the VP (cf. Diesing 1992a, De Hoop 1992, and references cited there).<sup>10</sup> This analysis implies that in (23a), the indefinite object is still inside the VP, signaling that the basic position of the internal argument is to the left of the verb.

In other words, the hypothesis that Dutch is a VO-language can only be maintained if the pattern in (23) is accounted for without assuming that indefinite noun phrases are inside the VP when they do not receive a specific interpretation.<sup>11</sup>

<sup>9</sup> However, the indefinite object acquires the specific interpretation only when it is deaccented. See Zwart (1995b) and below.

<sup>10</sup> De Hoop (1992:50) distinguishes four types of nonexistential readings for indefinite noun phrases: referential, partitive, generic, and generic collective.

<sup>11</sup> In this brief chapter, space does not permit me to discuss other issues relating to object movement in Dutch. For some of these, such as the question whether object movement in Dutch is A-movement or A'-movement and the question of the status of parasitic gaps licensed by scrambled objects in Dutch I refer to the discussion elsewhere (Vanden Wyngaerd 1989a, Zwart 1993b:309f).

## 2.2 Object Movement and Intonation

### 2.2.1 Focus, Focus Projection, and Neutral Intonation

In Dutch, intonation (pitch accent) serves the purpose of putting constituents in focus. A constituent is in focus when uttering it evokes a set of possible alternatives. This can be tested by associating the relevant constituent with elements like *only* (Rochemont 1986, Selkirk 1993):

- (24) a.        **John** kissed **Mary**  
       b.        I only said that John kissed **Mary**, not **BILL**

In (24a), *Mary* is the constituent in focus. The association with *only* test makes the alternative, *Bill*, explicit.

Crucially, the constituent in focus can be larger than the constituent actually carrying the pitch accent. We say that focus can be *projected* to a larger constituent (referred to here as *prosodic phrase*):

- (24) c.        I only said that John kissed **Mary**, not that there was an **ORGY**

In (24c), not *Mary* but the entire embedded clause is in focus. The association with *only* test makes the alternative, *that there was an orgy*, explicit.

Focus projection is impossible when the intonation is *contrastive*. This can be shown by giving the subject *John* in (24a) contrastive focus:

- (25) a.        **JOHN** kissed **Mary**  
       b.        I only said that **JOHN** kissed **Mary**, not **BILL**  
       c.        # I only said that **JOHN** kissed **Mary**, not that there was an **ORGY**

In (25b), the alternative *Bill* is made explicit (note that in (24b), *Bill* is the alternative for *Mary*, whereas in (25b), *Bill* is the alternative for *John*). However, as (25c) shows, the entire clause *that John kissed Mary* does not have an alternative.

The impossibility of projecting focus from a contrastively focused constituent can also be illustrated when the object *Mary* has contrastive focus. Note the subtle difference in intonation between (26a) and (24a). In (24a), *John* has a secondary accent (not indicated). In (26a), *John* is deaccented (indicated by angled brackets):

- (26) a.        <John kissed> **Mary**  
       b.        # <I only said that John kissed> **Mary**, not that there was an **orgy**

We will say that intonation is *neutral* when it allows focus projection.

### 2.2.2 Object Movement and 'Defocusing'.

It is often claimed that object movement in Continental West Germanic has the effect that the moved object is 'defocused' (Von Stechow and Sternefeld 1988:464f, Reinhart 1995). This could be taken to provide an alternative trigger for object movement. In this analysis, the object would have to move out of the VP in order to escape the interpretation of being in focus.

This analysis does not seem to be supported by empirical evidence. It is quite regularly the case that moved objects are deaccented. But the association with *only* test shows that this intonational pattern is not neutral. Focus projection from the direct object is only possible when the direct object is not deaccented, regardless the position of the direct object with respect to adverbials.

Consider first a pattern without adverbs:

- (27) a.    **..dat Jan MaRIE gekust heeft**  
           that John Mary kissed has  
           "..that John kissed Mary."  
       b.    **Ik zei alleen maar dat Jan MaRIE gekust heeft**  
           I only said           that John Mary kissed has  
           **niet dat er een orGIE was**  
           not that there an orgy was  
           "I only said that John kissed Mary, not that there was an orgy."
- (28) a.    **..**<dat Jan Marie ge>KUST <heeft>****  
           that John Mary kissed has  
           "..that John KISSED Mary."  
       b.    # **Ik zei alleen maar <dat Jan Marie ge>KUST <heeft>**  
           I only said           that John Mary kissed has  
           **niet dat er een orgie was**  
           not that there an orgy was

In (27a), the entire sentence *dat Jan Marie gekust heeft* 'that John kissed Mary' is in focus, shown by the association with *only* test in (27b). In (28a), the object is deaccented and the verb is in contrastive focus. As (28b) shows, focus projection is not possible.

Next let us review the intonational possibilities when an adverb, *gisteren* 'yesterday', is added:



- (29) a. **..dat Jan gisteren MaRIE gekust heeft**  
 that John yesterday Mary kissed has  
 "..that John kissed Mary yesterday."  
 b. **..<dat Jan gisteren Marie ge>KUST <heeft>**  
 that John yesterday Mary kissed has  
 "..that John KISSED Mary yesterday."
- (30) a. **..dat Jan MaRIE gisteren gekust heeft**  
 that John Mary yesterday kissed has  
 "..that John kissed Mary yesterday."  
 b. **..<dat Jan Marie gisteren ge>KUST <heeft>**  
 that John Mary yesterday kissed has  
 "..that John KISSED Mary yesterday."

The sentences in (29) behave exactly like the sentences in (28). Focus projection is only possible when the nuclear pitch accent is on the direct object. Interestingly, the same is true of the sentences in (30):

- (31) a. **Ik zei alleen maar dat Jan MaRIE gisteren gekust heeft**  
 I only said that John Mary yesterday kissed has  
**niet dat er een orgIE was**  
 not that there an orgy was  
 "I only said that John kissed Mary yesterday, not that there was an orgy."  
 b. # **Ik zei alleen maar <dat Jan Marie gisteren ge>KUST heeft**  
 I only said that John Mary yesterday kissed has  
**niet dat er een orgie was**  
 not that there an orgy was

These facts show two things. First, the direct object is not necessarily defocused when it precedes the adverb. In (30a), it carries the nuclear pitch accent. Second, the intonational pattern in which the direct object carries the nuclear pitch accent is a neutral intonational pattern, allowing focus to project to the clausal level. Third, when the direct object is defocused, the resulting intonation is not neutral, regardless the position of the direct object with respect to the adverb.

It remains true that the direct object, when it precedes the adverb, is very often deaccented. This signals that the direct object is out of focus.

When the direct object is definite, it very often represents information that is already known in the discourse. This information is generally not in focus. It seems that deaccented definite objects are so common that one might think that the resulting intonational pattern is neutral. The association with *only* test shows that this intonational pattern, though common (and, in that sense, 'unmarked'), is in fact not neutral.

When the direct object is indefinite, it usually represents new information. Therefore, indefinite direct objects are expected to be in focus. Like definite objects, indefinite objects come to represent old information when they are deaccented. This yields the nonexistential reading in (23b).

Again, the interpretation of the indefinite object is not directly related to the position of the indefinite object with respect to the adverb. An indefinite object following an adverb can have a specific reading, provided that it is deaccented (cf. Diesing 1992b:370, Zwart 1995b):

- (32) a. **..dat Jan altijd MEISjes wil kussen**  
           that John always girls wants kiss-INF  
           "..that John always wants to kiss GIRLS."  
       b. **..dat Jan altijd <meisjes wil> KUSsen**  
           that John always girls wants kiss-INF  
           "..that John always wants to KISS girls."

In (32b), *meisjes* 'girls' has a generic reading, which is unavailable in (32a).

Likewise, when *meisjes* 'girls' precedes the adverb, it can be accented or deaccented:<sup>12</sup>

- (33) a. **..dat Jan <meisjes altijd wil> KUSsen**  
           that John girls always wants kiss-INF  
           "..that John always wants to KISS girls."  
       b. **..dat Jan MEISjes <altijd wil kussen>**  
           that John girls always wants kiss-INF  
           "..that John always wants to kiss GIRLS."

The association with *only* test shows that the intonation in (33b) is neutral, in that it allows focus to project:

- (34) **Ik zei alleen maar dat Jan MEISjes <altijd wil kussen>**  
       I only said that John girls always wants kiss-INF  
**niet dat alle mannen viezeriken zijn**  
       not that all men scumbags are  
       "I only said that John always wants to kiss GIRLS, not that all men  
       are scumbags."

This fact has gone unnoticed so far, presumably because the variables *position* and *intonation* are generally not teased apart.

Summarizing, both definite and indefinite objects can be in and out of focus, both when they precede and when they follow sentence adverbs. This leaves us with no evidence that indefinite objects are in their basic position when they carry the nuclear pitch accent.

<sup>12</sup> Material following the element carrying nuclear pitch accent is always deaccented. This is indicated in (33b) to make sure the reader applies the correct intonational pattern. The focus is not contrastive, however, as the association with *only* test shows.

The observations support the minimalist approach, according to which objects move to Spec,AgrOP always, regardless factors of definiteness and focusing.

One question is unanswered, though. Focused indefinite objects very clearly *prefer* the position to the right of the adverbs. Thus, even though (33b) is possible, and may even project focus, (32a) is very much the preferred variant. If we are correct, this will have to fall out from the proper generalizations regarding the placement of adverbs.

### 2.2.3 *The Position of Adverbs*

For the proper description of the distribution of noun phrases in Dutch, at least three types of adverbs have to be distinguished. These three types are traditionally referred to as *sentence adverbs*, *VP-adverbs*, and *modal particles*. Examples are given in (35):

- (35) 1. *sentence adverbs*: **gisteren** 'yesterday', **altijd** 'always'.  
 2. *VP-adverbs*: **snel** 'quickly', **hard** 'loudly'.  
 3. *modal particles*: **maar** '(nontemporal) just', **even** '(lit.) for a while'.

Sentence adverbs differ from VP-adverbs and modal particles in that they can appear in extraposition.

- (36)            **Jan**    **heeft Marie**    **gekust**    **gisteren/\*snel/\*maar**  
                  John   has   Mary   kissed   yesterday/quickly/just

The postverbal adverb in (36) must be deaccented (ignoring comma intonation):

- (37)            **Jan**    **heeft Marie**    **gekust**    **(\*GISTeren)**  
                  John   has   Mary   kissed   yesterday

VP-adverbs differ from sentence adverbs and modal particles in that they require pitch accent (ignoring contrastive intonational patterns, in which all noncontrastive elements are deaccented):

- (38) Q      *What happened?*  
 a.      **Jan**    **heeft** **SNEL/??snel** **MaRIE** **gekust**  
          John   has   quickly   Mary   kissed  
          "John kissed Mary quickly."  
 b.      **Jan**    **heeft** **GISteren/gisteren** **MaRIE**    **gekust**  
          John   has   yesterday   Mary   kissed  
          "John kissed Mary yesterday."  
 c.      **Jan**    **heeft** **MaRIE**    **maar/\*MAAR**    **gekust**  
          John   has   Mary   just   kissed  
          "John just kissed Mary."

Modal particles are inherently unstressed. (38a) suggests that VP-adverbs are inherently stressed. Since postverbal adverbs must be unstressed, it follows that VP-adverbs may not be extraposed (cf. (36)). I will take these observations to indicate that VP-adverbs constitute an independent prosodic domain.

Modal particles differ from sentence adverbs and VP-adverbs in that they are sensitive to the partitioning of the sentence in old and new information. In the tradition of particle research, modal particles are referred to as a 'watershed' between old and new information (Krivonosov 1977, Foolen 1993). The generalization appears to hold up for Dutch, but a division in discourse linked (D-linked) and non-D-linked information appears to be more correct.

Consider the examples in (39):

- (39) a.      **Pak**    **jij**    **de telefoon**    **even**  
          take   you   the telephone   (particle)  
          "Will you answer the phone?"  
 b.      **Pak**    **jij**    **even**    **de telefoon**  
          take   you   (particle) the telephone  
          "Will you pick up the phone?"

The different translations are intended to approach the following contrast. In (39a), the hearer is aware that the telephone is ringing. Thus, the telephone is saliently present in the discourse situation. In (39b), the hearer is not aware that the telephone is ringing, and the telephone is introduced in the discourse as (39b) is uttered.

Crucially, a noun phrase conveying D-linked information need not be out of focus. Thus, nuclear pitch accent carrying noun phrases may precede focus particles:

- (40) a. **Jan heeft MaRIE maar gekust**  
 John has Mary just kissed  
 "John just kissed Mary."
- b. **Ik zei alleen maar dat Jan MaRIE maar gekust had,**  
 I only said that John Mary just kissed had  
**niet dat er een orgIE was**  
 not that there an orgy was  
 "I only said that John just kissed MaRY, not that there was an orgy."

(40a) shows that the noun phrase carrying nuclear pitch accent may appear to the left of the modal particle *maar* 'just'. (40b) shows that this intonational pattern is neutral, in the sense that it permits focus projection. In other words, modal particles are only sensitive to D-linking, not to prosodic phrasing.

Consider the distribution of definite and indefinite noun phrases with respect to the three types of adverbs under discussion here.

Definite noun phrases may appear both to the right and to the left of all types of adverbs. As discussed in the previous section, definite noun phrases preceding or following sentence adverbs may or may not carry the nuclear pitch accent. In contrast, definite noun phrases preceding VP-adverbs have to be deaccented (again ignoring contrastive stress):

- (41) **Jan heeft het boek/\*het BOEK SNEL gelezen**  
 John has the book quickly read  
 "John read the book quickly."

This can be explained in the following way. We have hypothesized that VP-adverbs need to constitute their own prosodic phrase. If *het boek* in (41) carries the nuclear pitch accent (and is not contrastive), a prosodic domain is created that includes (minimally) the direct object and the verb. This is the result of the projection of focus from the direct object to the phrase structure node dominating the direct object and the verb (AgrOP, if we are correct, VP if the direct object is inside VP). Consequently, the prosodic domain of the VP-adverb would be nested inside the prosodic domain of *het boek gelezen*. The facts follow if prosodic phrases cannot be nested (as seems to be correct, cf. Truckenbrodt 1995).

Definite noun phrases preceding modal particles can be accented or deaccented, as discussed above.

Indefinite noun phrases are non-D-linked, unless they are deaccented. Consequently, nuclear pitch accent carrying indefinite noun phrases may not precede modal particles:

- (42) a. \* **Jan heeft een BOEK maar gelezen**  
           John has a book just read  
       b. **Jan heeft maar een BOEK gelezen**  
           John has just a book read  
           "John settled for reading a book."

Deaccented indefinite noun phrases may precede modal particles, and receive a nonexistential interpretation:

- (43) **Ze moeten illegalen maar OP pakken**  
       they must illegal aliens just up pick  
       "They ought to just pick illegal aliens UP."

In (43), *illegalen* 'illegal aliens' receives a generic interpretation.

As before with definite noun phrases, nuclear pitch accent carrying indefinite noun phrase may not precede VP-adverbs. This would again lead to nested prosodic phrases. This problem does not occur with sentence adverbs. Therefore, nuclear pitch accent carrying indefinite noun phrases may precede sentence adverbs:

- (44) a. **Jan heeft een MEISje gisteren gekust**  
           John has a girl yesterday kissed  
           "John kissed a GIRL yesterday."  
       b. **Ik zei alleen maar dat Jan een MEISje gisteren gekust heeft**  
           I only said that John a girl yesterday kissed has  
           **niet dat er een orgIE was**  
           not that there an orgy was  
           "I only said that John kissed a GIRL yesterday, not that there was an  
           orgy."

This explains the basic distribution of definite and indefinite noun phrases with respect to the three types of adverbs. Two factors distinguishing definite and (not deaccented) indefinite noun phrases are relevant here. First, focused indefinite noun phrases are necessarily non-D-linked. Therefore they have to appear to the right of modal particles. Second, indefinite noun phrases need to be in a prosodic domain with the (clause final) verb. Therefore, VP-adverbs cannot intervene between indefinite noun phrases and the (clause final) verb.

Notice that there is also a clear preference for indefinite objects to appear to the right of sentence adverbs. This is not explained by the observations so far. Two considerations appear to be relevant for this question. First, sentence adverbs may receive a secondary pitch accent. In that case, they will behave like VP-adverbs and may not intervene between the indefinite direct object and the verb. Second, if unstressed, sentence adverbs will often fail to convey new information, and, hence, will not be in focus. This will again force the sentence adverb to a position

to the left of the nuclear pitch accent carrying direct object. From this perspective, the only situation in which a sentence adverb can appear to the left of a nuclear pitch accent carrying noun phrase is when the adverb conveys new information and does not carry pitch accent. Such intonational patterns can be construed, but are rarely encountered in everyday speech.

### 2.3 Conclusion

In this section, I have argued that all objects in Dutch, whether definite or indefinite, are in a derived position. In terms of the minimalist approach, we can say that the objects move to the specifier position of AgrOP in order to check a strong N-feature associated with AgrO.

I also argued that the distribution and interpretation of indefinite noun phrases in Dutch is a function of intonation rather than of syntactic position. I furthermore argued that object movement cannot be seen as a defocusing operation. Definite noun phrases appearing to the left of sentence adverbs and modal particles may still carry the nuclear pitch accent. The word order in the *Mittelfeld* in Dutch is the result of a complex interaction of prosodic phrasing and the placement of different types of adverbs.

These considerations lead to the conclusion that the overt position of direct objects with respect to the verb in embedded clauses in Dutch is irrelevant for the question whether the VP in Dutch is head final or head initial.

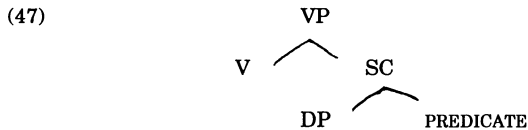
## 3 Predicate Raising in Dutch

In this section I will briefly present a further piece of evidence in support of the hypothesis that Dutch is a head-initial language. The evidence derives from the position of embedded predicates (*Small Clause predicates*).

As illustrated in (68) and (70) of chapter II, predicative PPs and APs in Dutch invariably appear to the immediate left of the clause final verb:

- (45) a. **..dat het lijk in de kast was**  
 that the body in the closet was  
 "...that the body was in the closet."  
 b. \* **..dat het lijk was in de kast**  
 that the body was in the closet  
 c. \* **..dat het lijk in de kast de hele tijd was**  
 that the body in the closet the whole time was  
 "...that the body was in the closet all the time."
- (46) a. **..dat Jan de kast leeg vond**  
 that John the closet empty found  
 "...that John found the closet empty."  
 b. \* **..dat Jan de kast vond leeg**  
 that John the closet found empty  
 c. \* **..dat Jan de kast leeg weer vond**  
 that John the closet empty again found  
 "...that John again found the closet empty."

Following Hoekstra (1984, 1988), I assume that embedded predicative elements like *in de kast* 'in the closet' in (45) and *leeg* 'empty' in (46) are generated in the complement domain of the verb:



The predicate and its subject, *DP*, constitute a *Small Clause (SC)*. I will follow Hoekstra (1988), Mulder (1992), and Den Dikken (1995a) in assuming that resultative predicates (48) and particles (49) are generated as Small Clause predicates as well.<sup>13</sup>

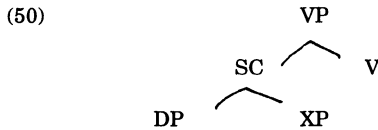
- (48) **..dat Jan de deur rood verft**  
 that John the door red paints  
 "...that John is painting the door red."

- (49) **..dat Jan de deur in trapt**  
 that John the door in kicks  
 "...that John kicks the door in."

<sup>13</sup> Carrier and Randall (1992) and Déchaine (1993) argue that resultative predicates are generated as adjuncts rather than as Small Clause predicates. If so, resultative constructions are irrelevant for the question whether Dutch is head-initial, since adjuncts are not generated in the complement domain of the verb. See Den Dikken and Hoekstra (1994) for discussion of Carrier and Randall's arguments.

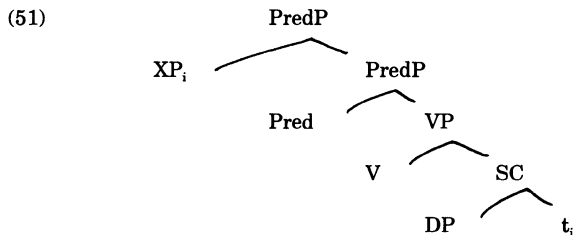


If the Small Clause analysis is correct, a potential problem arises for the hypothesis that Dutch is a head-initial language. If we assume that Dutch is head-final, as in the traditional analysis, the adjacency of the verb and the embedded predicate (XP) follows at once:



Put differently, the hypothesis that Dutch is head-initial can only be maintained if the Small Clause predicate undergoes obligatory movement to the left.

In Zwart (1993b), Zwart (1994a), and Koster (1995), arguments are presented in support of obligatory leftward movement of Small Clause predicates in Dutch. The hypothesis advanced there is that predicates are licensed in the specifier position of a Predicate Phrase (PredP) (Zwart 1994a:399). Underlying this hypothesis was the idea that the ‘complex predicate’ interpretation assigned to the verb-predicate combination should be given structural shape in a specifier-head configuration:<sup>14</sup>



The specifier-head relation between the embedded predicate and the verb is derived when the verb moves to PRED (overtly or covertly).<sup>15</sup> (It is also assumed that the Small Clause subject moves to Spec,AgrOP, not illustrated here.)

There is one crucial piece of evidence in support of the structure in (51). The evidence is based on the observation that the adjacency of the

<sup>14</sup> See Neeleman (1994b) for extensive discussion of the notion ‘complex predicate’ in this context.

<sup>15</sup> In Zwart (1993b:329) I assumed verb movement to PRED to be overt. I now no longer believe this to be correct.

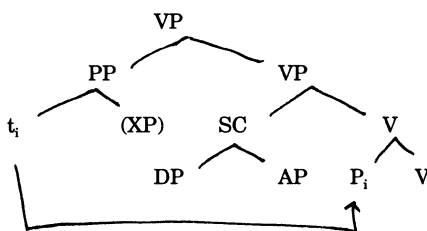
embedded predicate and the verb is not absolute. Stranded prepositions may appear between the embedded predicate and the verb.<sup>16</sup>

- (52) a. **..dat Jan de deur met een kwast rood verft**  
 that John the door with a brush red paints  
 "...that John paints the door red with a brush."  
 b. \* **..dat Jan de deur rood met een kwast verft**  
 that John the door red with a brush paints  
 c. **De kwast waar Jan de deur mee rood verft**  
 the brush where John the door with red paints  
 "The brush that John paints the door red with."  
 d. **De kwast waar Jan de deur rood mee verft**  
 the brush where John the door red with paints  
 "The brush that John paints the door red with."

In (52d), the stranded preposition *mee* 'with' appears between the predicate *rood* 'red' and the verb *verft* 'paints'.

The instrumental PP *met een kwast* 'with a brush' must be generated higher than the Small Clause predicate. If the head-final structure in (50) were correct, (52d) could only be derived by lowering the stranded preposition to a position between the verb and the resultative predicate:

(53)

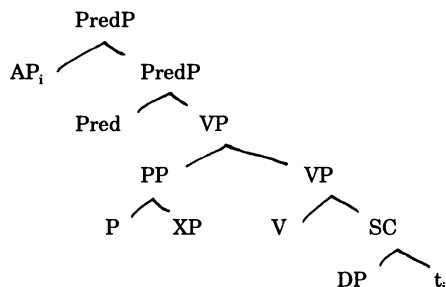


Such a lowering operation would be unprecedented. It would create a chain in which the head does not c-command the foot.

In the predicate raising analysis, this problem does not occur. Suppose that the instrumental PP is generated as an adjunct to the VP:

<sup>16</sup> See note 2. The preposition *met* 'with' becomes *mee* when its complement is extracted.

(54)



Movement of the complement of *P* (*XP*) would already yield the word order in (52d). Given the flexible positioning of adjuncts, we may assume that in (52c), the PP is generated higher than PredP.<sup>17</sup>

This argument faces one potential problem. If the instrumental PP may be generated as a sister of VP, what excludes the word order *predicate-PP-verb* (52b)?

This problem disappears if we take the prosodic properties of Small Clause constructions into account. In these constructions, the predicate carries the nuclear pitch accent and is in a prosodic domain with the verb.<sup>18</sup> Adjunct PPs, like VP-adverbs, constitute a prosodic domain of their own. Recall that a prosodic phrase cannot be nested in another prosodic domain. This excludes the word order in (52b).

The stranded preposition, on the other hand, is atonic. Therefore, it does not intrude in the prosodic phrase containing the predicate and the verb.<sup>19</sup>

Even if the question of the distribution of instrumental PPs and other adjuncts cannot be settled at this point, the position of stranded prepositions between the Small Clause predicate and the verb should count as decisive evidence in support of predicate raising in Dutch. Conversely, I know of no evidence in support of the hypothesis that Small Clause predicates in Dutch are in their basic position.

<sup>17</sup> In (Zwart 1993b:329) I assumed that the stranded preposition is actually adjoined to PRED, and that this head movement makes the PP transparent (cf. Chomsky 1986b:69).

<sup>18</sup> The generalizations that the nuclear pitch accent is on the direct object of the verb, and, in Small Clause constructions, on the predicate of the Small Clause, are consistent with Cinque's (1993) proposal that the nuclear pitch accent is assigned to the element on the most deeply embedded right branch. There are further subregularities, however. Thus, it seems that when the Small Clause predicate is not a phrase (e.g. a particle), the Small Clause subject carries the nuclear pitch accent. I will leave these phenomena for further study.

<sup>19</sup> Modal particles are also atonic, but must appear to the right of non-D-linked material. The Small Clause predicate is always non-D-linked. A remaining question is why sentence adverbs cannot intervene between the Small Clause predicate and the verb. I will leave this question for further study.

In terms of the minimalist approach, we can describe PRED as having a strong N-feature that needs to be checked in overt syntax. This result is consistent with what seems to be a generalization of the Minimalist Program, namely that elements generated in the complement domain of a verb have to be formally licensed in the functional domain associated with that verb.

## 4 Conclusion

This concludes the discussion of Dutch as an SVO language. The hypothesis advanced here is that the word order in embedded clauses in Dutch is not a direct reflection of the word order in the initial stage of the derivation of a sentence. The word order in embedded clauses suggests that objects and Small Clauses are generated to the left of the verb. I have argued that there is reason to believe that both objects and Small Clause predicates are in a derived position in embedded clauses. Consequently, the overt syntax position of objects and predicates in embedded clauses is irrelevant for the question whether Dutch is head initial or head final.

Ignoring the position of objects and embedded predicates, we seem to have overwhelming evidence in support of the hypothesis that Dutch is head initial. Typologically, Dutch and English, an uncontroversial head initial language, behave very much alike. The differences between Dutch and English, and between Dutch and other Germanic languages can by and large be reduced to two factors, the presence or absence of object movement and verb movement. Economy of description does not allow us to postulate a third parameter, governing the position of the head with respect to its complement.

In the next chapter, I will present evidence for the presence of functional projections between CP and VP in Dutch. The evidence shows that these functional projections are all head initial. This is consistent with what we found in chapter II, namely that there is no evidence for the presence of functional heads to the right of VP in Dutch.

## IV

### THE POSITION OF THE FUNCTIONAL HEADS IN DUTCH

In this chapter, I will present several arguments in support of the idea that the functional projections in Dutch are head initial. This will then serve as a starting point for the analysis of verb movement in chapter VI. The evidence involves a discussion of the 'lexical' elements that are taken to occupy functional head positions (complementizers, determiners, and infinitival markers) (section 1), an analysis of clitic placement in Dutch (section 2), and a discussion of complementizer agreement and double agreement phenomena in Continental West Germanic dialects (section 3). Double agreement occurs when the morphology of the finite verb depends on the verb's position in the clause.

The evidence shows that CP and DP in Dutch are head initial, and that the status of the infinitival marker is unclear.

The distribution of clitics in Dutch and West-Flemish can be described in a more insightful way if we assume that clitics are associated with functional head positions. If so, the position of the functional heads is given away by the position of the clitics. Again, we conclude that the functional projections in Dutch are head initial.

Finally, in a number of double agreement dialects, the complementizer agreement morpheme shows up on the verb in inversion constructions, but not on the verb in subject initial main clauses. In both constructions, the verb occupies the second position, but the morphology suggests that the verb is in different structural positions in each case. If so, there must be head initial functional projections in Dutch other than CP.

# 1 Determiner, Complementizer, Infinitival Marker

## 1.1 Determiners

Dutch has three singular determiners, *de*, *het*, and *een*. *De* and *het* are definite determiners, *een* is indefinite. *De* and *het* are marked for gender and agree in gender with the adjective and the noun (*de* is nonneuter (*nn*), *het* is neuter (*n*)).<sup>1</sup> Dutch has two plural determiners, *de* and  $\emptyset$ . *De* is the definite plural determiner,  $\emptyset$  is the plural indefinite determiner.

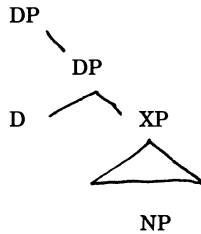
The determiners invariably precede their complement:

- |     |    |                                                |                                          |
|-----|----|------------------------------------------------|------------------------------------------|
| (1) | a. | <b>de</b>                                      | <b>[oud-e man]</b>                       |
|     |    | the                                            | old-n(n) man                             |
|     | b. | * <b>[oud-e man] de</b>                        |                                          |
|     |    | old-n(n)                                       | man the                                  |
|     |    |                                                |                                          |
| (2) | a. | <b>het</b>                                     | <b>[oud-e huis]</b>                      |
|     |    | the                                            | old-n(n) house                           |
|     | b. | * <b>[oud-e huis] het</b>                      |                                          |
|     |    | old-n(n)                                       | house the                                |
|     |    |                                                |                                          |
| (3) | a. | <b>een</b>                                     | <b>[oud-e man]</b>                       |
|     |    | a                                              | old-nn man                               |
|     | b. | * <b>[oud-e man] een</b>                       |                                          |
|     |    | old-nn                                         | man a                                    |
|     |    |                                                |                                          |
| (4) | a. | <b>een</b>                                     | <b>[oud-<math>\emptyset</math> huis]</b> |
|     |    | a                                              | old-n house                              |
|     | b. | * <b>[oud-<math>\emptyset</math> huis] een</b> |                                          |
|     |    | old-n                                          | house a                                  |
|     |    |                                                |                                          |
| (5) | a. | <b>de</b>                                      | <b>[oud-e huizen]</b>                    |
|     |    | the                                            | old-pl houses                            |
|     | b. | * <b>[oud-e huizen] de</b>                     |                                          |
|     |    | old-pl                                         | houses the                               |

Let us assume the following structure for the noun phrases in (1)-(5) (cf. Abney 1987):

<sup>1</sup> *Een* appears to be a weak variant of the numeral *één* 'one', and may have to be analyzed as a numeral rather than as a determiner (Zwarts 1992).

(6)



Depending on the proper analysis of noun phrases, *XP* in (6) can be an Adjectival Phrase or a Degree Phrase (cf. Corver 1991), or an Agreement Phrase mediating between the adjective and the noun. The crucial aspect of the structure in (6) is that *DP* is the highest functional projection in the noun phrase, and *D* the highest functional head. The determiner is taken to be generated in *D*.

Assuming that *DP* is head initial, as in (6), we derive that the determiner precedes whatever appears in its complement domain.<sup>2</sup> If *DP* were head final, we would have to assume that the complement of *D* moves to the right obligatorily. There seems to be no independent evidence in support of this rightward movement in Dutch noun phrases.

Since *D* is the highest functional head in (6), there is no higher functional head for *D* to move to. Therefore, the determiner cannot have ended up to the left of the adjective and the noun phrase as the result of movement. Therefore, the noun phrases in (1)-(5) show that *DP* in Dutch is head initial.<sup>3</sup>

## 1.2 Complementizers

The argument of section 1.1 can be repeated for complementizers. If *CP* is the highest functional projection associated with the verb, the position of the complementizer shows that *CP* is head initial.

Dutch has three complementizers used in finite clauses (*als*, *of*, and *dat*) and one complementizer used in nonfinite clauses (*om*). *Als* is used in conditional clauses, *of* in embedded interrogatives, and *dat* in

<sup>2</sup> Abney (1987) assumes that the specifier of *DP* is filled by elements like *all* in *all the books*. These elements precede the determiner in Dutch as well (*al de boeken* 'all the books').

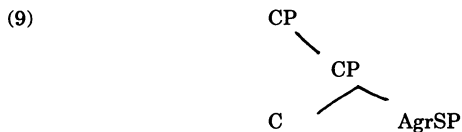
<sup>3</sup> It has been proposed that not *DP* but *KP* is not the highest functional projection in the noun phrase (Bittner and Hale 1996). *KP* is a functional projection headed by the Case features of the noun. If so, *DP* could be head final, and the determiner could have ended up to the left of the adjective and the noun phrase as the result of movement to *K*. Of course this does not affect our argument. The highest functional projection (now *KP*) must be head initial.

noninterrogative complement clauses.<sup>4</sup> *Om* is originally a preposition (meaning 'around'), and is used in infinitival purpose clauses and (optionally) in control infinitives.<sup>5</sup> It requires the presence of the infinitival marker *te* on the infinitive (see 1.3).

These complementizers are always the leftmost elements in the embedded clause:

- (7) a.    **..als/of/dat**    **[Jan Marie kust]**  
           as/if/that    John Mary kisses  
           "..if/whether/that John kisses Mary."  
       b.    \* **..[Jan Marie kust] als/of/dat**  
               John Mary kisses as/if/that
- (8) a.    **..om**    **[PRO Marie te kussen]**  
           OM       Mary to kiss  
           "..to kiss Mary."  
       b.    \* **..[PRO Marie te kussen] om**  
               ..       Mary to kiss OM

The structure assumed for the sentences in (7)-(8) is (9):



The complementizers are taken to be generated in C.

Assuming that CP is head initial, as in (9), we derive that the complementizers invariably precede the rest of the embedded clause. If CP were head final, the word order in (7)-(8) would have to be derived by rightward movement of AgrSP. Again, there seems to be no independent evidence supporting such rightward movement in Dutch.

<sup>4</sup> The complementizers *als*, *of*, and *dat* frequently appear in combination, especially in dialects of Dutch (see De Rooij 1965a, Hoekstra 1992a). *Dat* is used in combination with a number of prepositions in the formation of finite adjunct clauses, yielding apparent complex complementizers like *omdat* 'because', *voordat* 'before', *zonder dat* [without that], etc. These adjunct clauses must probably be analyzed as regular finite clauses headed by *dat*, appearing in the complement of a preposition. Likewise, *als*-clauses and *dat*-clauses occur as complements of the deictic element *zo*, yielding *zoals* 'like' and *zodat* 'so that'.

<sup>5</sup> *Om* is excluded with control verbs like *menen* 'think'. On the distribution of *om*, see Walraven (1975).



Since C is the highest functional head, there is no higher functional head for the complementizer to move to. Therefore the word order in (7)-(8) cannot be the result of head movement of the complementizer from a position to the right of AgrSP. Therefore, the clauses in (7)-(8) show that the CP in Dutch is head initial.<sup>6</sup>

### 1.3 The Infinitival Marker

In a number of constructions, infinitives in Dutch are accompanied by what looks like a prefixed morpheme, *te*. *Te* is commonly characterized as an infinitival marker.<sup>7</sup> In Dutch, it is always left adjacent to the infinitive:

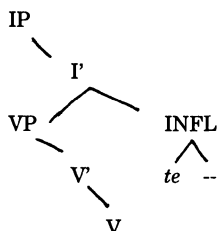
- (10) a.    **..om**    **Marie**    **te kussen**  
           OM    Mary    to kiss  
           "..to kiss Mary."  
       b.    \* **..om**    **te Marie**    **kussen**  
               OM    to Mary    kiss  
       c.    \* **..om**    **Marie**    **kussen te**  
               OM    Mary    kiss    to

In the traditional SOV analysis of Dutch, the position of *te* could be accounted for by assuming that *te* is generated in INFL, and that INFL is located to the right of VP:

<sup>6</sup> Again, if there is a higher functional head F, the argument would apply to F, and the highest functional projection would still have to be head initial.

<sup>7</sup> *Te* is etymologically related to English *to*, German *zu*, and Gothic *du*. There is little doubt that *te* originated as a preposition taking dative complements. Its meaning would be roughly equivalent to *towards*, *onto*, *at*, and *for*. As a preposition, *te* is no longer in productive use in Dutch, except with placenames (*te Groningen* 'in Groningen'). In addition, *te* can be traced in a number of fixed expressions (among which *thuis < te huis* 'home'). As a preposition, *te* could take a deverbal noun as its complement. Historically, the Indoeuropean infinitive is considered to be a verbal noun in the accusative Case, ending in *-onom*, where *-m* is the accusative Case suffix, *-no-* a nominalizing affix, and *-o-* a connecting vowel (Krahe-Meid 1969:116). In Germanic, the *-om* part of the ending was lost, in North Germanic the *-n-* of the nominalizing affix was lost as well. In West Germanic, the infinitive appears to have been aligned with other nouns, acquiring a full set of Case endings. In Old English, Old High German, and Middle Dutch, and to the present day in certain dialects of Dutch, the prepositional status of *te* in this combination is apparent from the dative Case morphology on the infinitival, yielding forms like *te lesene* 'to read-DAT' (Vanacker 1963:142, Landheer 1951:78, Bayer 1993, and references cited there).

(11)



On this assumption, the order *te*-infinitive could result from movement of the verb to the indicated slot in INFL (cf. Rutten 1991).

However, there are two reasons to believe that *te* is not generated in INFL (or, in the split INFL analysis adopted here, in a Tense or Agreement head).

First, the inflectional features of the infinitive are expressed by the suffix *-ə* (spelled *-en* in Standard Dutch orthography).<sup>8</sup> Hence, the association of *te* with INFL seems unmotivated.

Second, the presence of *te* is dependent on the configuration in which the infinitive appears. There is no direct relation between the tense and agreement features of the infinitive and the presence of *te*.

The following observations can be made regarding the distribution of *te*.

First, *te* is absent when the infinitive is independent. This occurs in the following contexts:

- infinitival main verbs

(12)            **Jan     Marie   (\*te) kussen?   Dat nooit!**  
                  John   Mary   to kiss                   that never  
                  "John kiss Mary? Never!"

- infinitival imperatives

(13)            **(\*Te) stoppen!**  
                  te stop  
                  "Stop!"

<sup>8</sup> In dialects spoken in the Northeast of the Netherlands, the infinitival suffix appears to be a syllabic *-n*.

- infinitivals used as subjects or objects<sup>9</sup>

- (14) a.        **(\*Te) kussen**        **is leuk**  
               to kiss                is fun  
               "Kissing is fun."  
       b.        **..dat Jan Marie (\*te) kussen leerde**  
               that John Mary to kiss taught  
               "..that John taught Mary 'kissing'."

- nominal infinitives

- (15)        **Dat**        **alsmaar**        **meisjes (\*te) kussen**        **wordt vervelend**  
               that all the time girls to kiss becomes boring  
               "This kissing girls all the time gets boring."

Second, *te* is absent in the complement of modal verbs, inchoative verbs, perception verbs, and causative verbs:

- complements of modal verbs and inchoative verbs

- (16) a.        **Jan wil Marie (\*te) kussen**  
               John wants Mary to kiss  
               "John wants to kiss Mary."  
       b.        **Jan gaat Marie (\*te) kussen**  
               John goes Mary to kiss  
               "John is going to kiss Mary."

- complements of perception verbs and causative verbs<sup>10</sup>

- (17) a.        **Piet ziet Jan Marie (\*te) kussen**  
               Pete sees John Mary to kiss  
               "Pete sees John kiss Mary."  
       b.        **Piet laat Jan Marie (\*te) kussen**  
               Pete lets John Mary to kiss  
               "Pete lets John kiss Mary."

Third, *te* is obligatory in the complement of prepositions. There appear to be two subcases:

<sup>9</sup> In the b-sentence, the infinitive occurs to the left of the matrix verb, like object NPs. When the infinitive appears to the right of the matrix verb, we are no longer dealing with an object infinitival, and *te* is possible: *dat Jan Marie leerde (te) kussen* 'that John taught Mary to kiss'.

<sup>10</sup> In Middle Dutch, *te* was not excluded in the complement of causative *doen* 'do': *doen te weten* 'let know' (Stoett 1977:203).

- adjunct clauses and extraposed clauses

- (18) a. **..door Marie \*(te) kussen**  
 by Mary to kiss  
 "...by kissing Mary."  
 b. **Het is moeilijk (om) Marie \*(te) kussen.**  
 it is difficult OM Mary to kiss  
 "It is difficult to kiss Mary."

- complement clauses that may be introduced by *om*

- (19) a. **Jan probeert (om) Marie \*(te) kussen**  
 John tries OM Mary to kiss  
 "John tries to kiss Mary."  
 b. **de kans (om) Marie \*(te) kussen**  
 the chance OM Mary to kiss  
 "the chance of kissing Mary."

*Te* is obligatory in a number of additional contexts:

- complements of raising verbs and control verbs that do not take *om*<sup>11</sup>

- (20) a. **Jan schijnt Marie \*(te) kussen**  
 John seems Mary to kiss  
 "John seems to be kissing Mary."  
 b. **Jan meent (\*om) intelligent \*(te) zijn**  
 John believes OM intelligent to be  
 "John<sub>i</sub> thinks he<sub>i</sub> is intelligent."

- infinitival interrogatives

- (21) a. **Jan wist niet wat \*(te) doen**  
 John knew not what to do  
 "John didn't know what to do."  
 b. **Wat \*(te) doen?**  
 what to do  
 "What should we do?"

<sup>11</sup> See note 5.

- *tough*-constructions and gerundives

- (22) a. **Marie is moeilijk \*(te) kussen**  
 Mary is hard to kiss  
 "Mary is hard to kiss."  
 b. **Marie is \*(te) vertrouwen**  
 Mary is to trust  
 "Mary can be trusted."

- durative constructions<sup>12</sup>

- (23) **Jan staat Marie \*(te) kussen**  
 John stands Mary to kiss  
 "John is kissing Mary (for a while)."

Summarizing, the presence or absence of *te* depends on the configuration in which the infinitive appears. Thus, *te* looks more like a complementizer than like a tense/agreement morpheme. Again, analyzing *te* as a morpheme generated in INFL seems unmotivated.<sup>13</sup>

Of course, the verb raising analysis illustrated in (11) could be maintained if *te* is generated in a functional head other than INFL. However, since the status of this other functional head would be unclear, we cannot exclude that it would be located to the left of VP, below AgrOP and PredP.<sup>14</sup>

<sup>12</sup> When the durative verb is nonfinite, *te* is preferably absent (in (ii), the infinitive *staan* replaces the expected past participle *gestaan*, by the so-called *Infinitivus Pro Participio* effect):

- (i) **Jan blijft Marie maar staan (?te) kussen**  
 John stays Mary just stand to kiss  
 "John keeps on kissing Mary."  
 (ii) **Jan heeft Marie staan (??te) kussen**  
 John has Mary stand to kiss  
 "John has been kissing Mary."

<sup>13</sup> See Giusti (1991) for additional argumentation in support of the hypothesis that *te* is generated in INFL, and Zwart (1993b:106ff) for discussion.

<sup>14</sup> There is at least one dialect of Dutch, the Groningen dialect, in which *te* appears to the left of the direct object and the Small Clause predicate (Schuurman 1987). Schuurman observes that this construction does not have the expected properties of incorporation constructions, as the object can be marked for number, and the intervening constituent can be an entire Small Clause:

- (i) **Hest volk genoeg te heu in schuur brengen?**  
 have-2SG people enough to hay in barn bring  
 "Do you have enough people to bring the hay into the barn?"

In conclusion, the distribution of the infinitival marker *te* does not present an argument in support of the hypothesis that IP, or any other functional projection in Dutch, is head final.<sup>15</sup>

## 1.4 Conclusion

The functional projections headed by a 'lexical' morpheme, DP and CP, are clearly head initial in Dutch. The status of the infinitival marker *te* is unclear. It is not associated with the tense and agreement features of the verb, and therefore cannot be generated in INFL (or in T/Agr). Hence, it is not clear that the position of *te* is relevant for the question whether the functional projections in Dutch are head initial or head final.

In conclusion, the evidence we have suggests that all functional projections in Dutch are head initial. In the following two sections, we will present more evidence supporting this conclusion, based on an analysis of a) clitic placement in Dutch and b) complementizer agreement and double agreement phenomena.

## 2 Clitics in Dutch

In this section, and in the following section, I will provide evidence in support of the hypothesis that the functional projections of the IP-system (*Agr* and *T*) in Dutch are head initial. The first piece of evidence comes from an analysis of clitic phenomena in Dutch and West Flemish.

First I will discuss the nature of the weak pronouns in Dutch and conclude that they are syntactic clitics (section 2.1). Second, I will argue that the distribution of the clitics in Dutch and West Flemish shows that clitics must be associated with Agreement heads (section 2.2). It then follows from the distribution of the clitics that there are functional heads to the left of the VP in Dutch and West Flemish.<sup>16</sup>

<sup>15</sup> It seems to me that the preposition *te* must have functioned as a complementizer at first (cf. note 16 of chapter II and Van Gelderen 1993). It may have lost its complementizer status when a) other prepositions like *om* and (in dialects) *van* 'of' and *voor* 'for' took over the function of complementizer, and b) the OV order in embedded clauses was generalized (cf. *omme te meerne sinen lof* [OM to enhance his praise], *Karel ende Elegast* line 14, around 1300). *Te* may have been reduced to an infinitival prefix at that point, but only in those constructions in which it was originally present.

<sup>16</sup> Throughout, I will assume that conclusions reached on the basis of (Standard) Dutch apply to West Flemish as well, and vice versa.

The argumentation goes back to Zwart (1990b), and has been developed in subsequent work (Zwart 1991a, 1993b,c, 1996b, to appear d).<sup>17</sup>

## 2.1 The Status of the Weak Pronouns in Dutch

### 2.1.1 Strong versus Weak Pronouns

Consider the following tables of pronouns in Dutch, repeated from section II.1.5:

(24) *Strong subject pronouns*

|     |         |     |        |
|-----|---------|-----|--------|
| 1SG | ik      | 1PL | wij    |
| 2SG | jij     | 2SG | jullie |
| 3SG | hij/zij | 3SG | zij    |

(25) *Weak subject pronouns*

|     |       |     |    |
|-----|-------|-----|----|
| 1SG | 'k    | 1PL | we |
| 2SG | je    | 2PL | -  |
| 3SG | ie/ze | 3PL | ze |

(26) *Strong object pronouns*

|     |          |     |          |
|-----|----------|-----|----------|
| 1SG | mij      | 1PL | ons      |
| 2SG | jou      | 2PL | jullie   |
| 3SG | hem/haar | 3PL | hen, hun |

(27) *Weak object pronouns*

|     |          |     |    |
|-----|----------|-----|----|
| 1SG | me       | 1PL | -  |
| 2SG | je       | 2PL | -  |
| 3SG | 'm/'r/'t | 3PL | ze |

The weak pronouns in (25) and (27) are obviously etymologically related to the strong pronouns in (24) and (26). The relations can be described as follows.

<sup>17</sup> Jaspers (1989) was the first to conclude from the distribution of clitics in Dutch that there must be functional heads to the left of VP in Dutch. However, his conclusion is not generalized over all functional heads in Dutch. Haegeman (1991) applies the analysis of clitics in Dutch of Zwart (1991a) to West Flemish and reaches identical conclusions as to the position of the functional heads. See also Cardinaletti and Roberts (1991), Cardinaletti (1992), and Cardinaletti and Starke (1995) for further discussion of clitics in Germanic.

Strong pronouns ending in *-ij* (Middle Dutch *-i*) have a weak variant ending in *-e* [ə]:<sup>18</sup>

|      |     |    |
|------|-----|----|
| (28) | jij | je |
|      | hij | -  |
|      | zij | ze |
|      | wij | we |
|      | mij | me |

Only the 3SG masculine subject pronoun *hij* does not have a weak variant *he*. Schönfeld (1954:137) ascribes this to phonetic reasons. In enclitic positions, the demonstrative pronoun *die*, reduced to *ie*, appears to have replaced *\*he* in the weak pronoun paradigm (see note 28 of chapter II).

Strong pronouns ending in a consonant C have a weak variant consisting of ə+C:

|      |      |    |
|------|------|----|
| (29) | ik   | 'k |
|      | hem  | 'm |
|      | haar | 'r |

Exceptions are the 1PL strong object pronoun *ons* (\*'s) and the 3PL strong object pronoun *hen/hun* (weak variant *ze*).

Idiosyncratic strong-weak pairs are the following:

|      |         |    |
|------|---------|----|
| (30) | jou     | je |
|      | hen/hun | ze |

Defective are *hij*, *jullie*, *ons* (no weak variant), and *'t* (often spelled *het*) (no strong variant).

The question arises whether the weak pronouns are phonologically reduced variants of the strong pronouns (*simple clitics*, in terms of Zwicky 1977) or elements with a syntactic status of their own (*special clitics* in terms of Zwicky 1977, henceforth referred to as *clitics* here).

A related question is whether the Dutch weak pronouns are to be analyzed as heads or as phrases. A standard assumption is that clitics (special clitics) are heads (Kayne 1975, 1991; Baltin 1982).<sup>19</sup>

<sup>18</sup> In addition, there is the stilted pair *gij* - *ge* 'thou'.

<sup>19</sup> Cardinaletti and Starke (1995) argue that there are three classes of pronouns: defective heads (clitics), nondefective XPs (full pronouns), and defective XPs (weak pronouns) (see also Fontana 1992). They take defective elements appearing in the first sentence position in Dutch to be XPs (weak pronouns). It would follow that *-ie* is the only syntactic clitic in Dutch. However, if we are correct, *-ie* is a reduced variant of the demonstrative pronoun *die*, substituting for *\*he* in enclitic position. As *die* reduces to *-ie* in enclitic position only, we do not expect *ie* to appear in the first sentence position. In enclitic position, *-ie* does not behave  
(continued...)



In the following sections, we will briefly present the arguments for considering the weak pronouns in Dutch as special clitics and as heads.

### 2.1.2 *Phonological Reduction*

Berendsen (1986) argues that the weak pronouns in Dutch are not derived from the strong pronouns through phonological reduction. His argument is based on the observation that the weak pronouns may have a specialized meaning which the strong pronouns lack. This indicates that they are stored in the lexicon as weak pronouns, and that their weakness is not a result of phonological rules.

For example, the weak forms of the 2SG and 3PL pronouns may have a generic interpretation ('people'), but the corresponding strong forms may not:

- (31) a. **Ze zeggen zoveel**  
           they say somuch  
           "They/people say a lot."  
       b. **Zij zeggen zoveel**  
           they say somuch  
           "They/\*people say a lot."
- (32) a. **Je leeft maar één keer**  
           you live but one time  
           "You(addressee)/you(people) only live once."  
       b. **Jij leeft maar één keer**  
           you live but one time  
           "You(addressee)/\*you(people) only live once."

Similarly, the weak 3PL pronouns (both subject and object) can be used to refer to both persons and things, whereas the strong 3PL pronouns can only be used to refer to persons (cf. Kayne 1975:86):

- (33) a. **Ze/\*zij zijn uit voorraad**  
           they are out stock  
           "They are out of stock."  
       b. **Ik heb ze/\*hen gerepareerd**  
           I have them repaired  
           "I repaired them."

<sup>19</sup> (...continued)

different from the other weak subject pronouns *ze*, *we*, *je*. Since we can explain why *-ie* does not appear in sentence initial position, there is no reason why we should make a distinction between *-ie* and *ze*, *we*, *je* in terms of heads versus phrases.

This semantic specialization is unexpected if the weak pronouns are derived from the strong pronouns by phonological rules. Hence, it must be the case that the weak pronouns and the strong pronouns, though morphologically related, are stored in the lexicon separately.

Berendsen also shows that in 1SG and 2SG only weak pronouns are used as SE-anaphora (in the terminology of Reinhart and Reuland 1991).<sup>20</sup> Thus:

- (34) a. **Ik** **schaam** **me/\*mij**  
 I shame me  
 "I'm ashamed."  
 b. **Jij** **schaamt** **je/\*jou**  
 you shame you  
 "You're ashamed."

Again, if the weak pronouns are phonologically reduced forms of strong pronouns, this syntactic specialization of the weak pronouns is unexpected.

In addition, Berendsen argues that separate storage of weak pronouns in the lexicon is needed to account for the fact that certain idiomatic expressions involving pronouns allow only the weak form. The examples Berendsen gives are of the following type:

- (35) a. **Daar** **gaat** **ie/\*hij**  
 there goes he  
 "Here goes."  
 b. **Daar** **kun** **je/\*jij** **donder** **op** **zeggen**  
 there can you thunder on say  
 "You can bet your bottom dollar."

These examples can easily be multiplied. For example, numerous stock phrases containing a pronoun require the weak variant. The stock phrases in (36) are not of a productive type, and the weak pronouns are obligatory. When made productive, as in (37), the phrases allow both weak and strong pronouns.

<sup>20</sup> In 3SG and 3PL, a special pronoun *zich* is used as a SE-anaphor.

- (36) a. **Dank je/\*jou**  
thank you  
b. **Ben je/\*jij !**  
are you  
"Are you crazy?"  
c. **Denk je/\*jij ?**  
think you  
"Do you think so?"  
d. **Zie je/\*jij**  
see you  
"You see."
- (37) a. **Ik dank je/jou**  
I thank you  
b. **Ben je/jij nu helemaal gek geworden?**  
are you now totally crazy become  
"Are you completely out of your mind?"  
c. **Denk je/jij nog weleens aan vroeger?**  
think you still sometimes on earlier  
"Do you still think of the old days sometimes?"  
d. **Zie je/jij wat ik bedoel?**  
see you what I mean  
"Do you see what I mean?"

Berendsen argues as follows. Assuming that idiomatic expressions are stored in the lexicon, then under a phonological reduction analysis the pronouns in the idiomatic expressions should be associated with a feature [obligatory reduction]. In a lexical storage analysis the weak pronouns are available from the outset and no feature specification is needed. Since the feature [obligatory reduction] is ad hoc, the lexical storage analysis must be preferred.

This argument is not entirely satisfactory, because idioms may be stored in the lexicon *as phrases* (DiSciullo and Williams 1987). If idiomatic expressions for some reason are *learned* with the pronouns in reduced form, then the fact that they are always *used* with the pronouns in reduced form does not imply that weak pronouns are stored in the lexicon.

It is a common property of idiomatic expressions to require phonologically reduced forms. An example not including pronouns is given in (38). Again, this does not show that phonologically reduced forms are lexically stored.

- (38) **Hij knijpt 'm als een ouwe/\*oude dief**  
he pinches him like an old thief  
"He is very much afraid that he will be caught."

Berendsen's argument implies that *ouwe* 'old' is also lexically stored separately from *oude* 'old'. In that case, we seem to be missing a

generalization, considering the existence of pairs like *gouden-gouwe* 'golden', *koude-kouwe* 'cold'.

Nevertheless, Berendsen's observations do warrant the conclusion that the status of the weak pronouns in Dutch is not due to a phonological reduction operation taking place *during sentence production*. This forms the first piece of evidence that these weak pronouns are clitics.

### 2.1.3 Word Order

In Dutch, a number of constructions exist in which weak pronouns and full noun phrases have a different distribution (see also Jaspers 1989, Zwart 1991a, Haegeman 1991, 1992). Assuming that full noun phrases must be licensed in the specifier position of an Agreement Phrase, the evidence shows that weak pronouns do not occupy such a specifier position. This is explained if weak noun phrases are heads.

There are four cases to consider, the fourth of which occurs in dialects of Dutch only:

#### a. Scrambling

Recall from section II.1.5 that weak object pronouns cannot appear to the right of sentence adverbials (Koster 1978a):

- (39) a.    **..dat**   **Jan**   **gisteren**   **Marie gekust heeft**  
           that   John   yesterday   Mary   kissed has  
           "..that John kissed Mary yesterday."  
       b.    **..dat**   **Jan**   **(\*gisteren) 'r**    **gekust heeft**  
           that   John   yesterday   her    kissed has

We have assumed that the direct object *Marie* in (39a) moves to the specifier position of AgrOP (see II.4.3). The sentence adverb *gisteren* 'yesterday' may be adjoined in various positions, both to the right and to the left of the position of the direct object (see III.2).

In earlier work, I took the pair in (39) to provide clear evidence that weak pronouns and full noun phrases move to different positions. Before reaching that conclusion, however, we have to take a closer look at the intonation of the sentences in (39), and see whether intonational factors cannot explain the distribution of the various types of noun phrases (cf. the discussion of the distribution of indefinite noun phrases in III.2).

Weak pronouns by their nature are incapable of carrying the nuclear pitch accent. In Dutch, the nuclear pitch accent is assigned to the most deeply embedded complement (Cinque 1993). In (39a), that is the direct object *Marie*. The neutral (focus projecting) stress pattern of (39a) therefore looks like (40):

- (40)            **..dat    Jan    gisteren    MaRIE gekust heeft**  
                  that    John   yesterday   Mary   kissed has

This neutral intonational pattern cannot be transferred to (39b), since the weak pronoun cannot carry the nuclear pitch accent. This explains why (39b) is readily judged ungrammatical by native speakers.

The neutral intonation pattern of sentences like (39b) has the nuclear pitch accent on the past participle:

- (41)            **..dat    Jan    (??gisteren)    'r    gekUST heeft**  
                  that    John   yesterday    her    kissed has

In (41), there appears to be a clear preference for the weak pronoun to precede the sentence adverb.<sup>21</sup>

When the adverb is contrastively stressed, (41) appears to improve:

- (42)            **..dat    Jan    (?GISTeren) 'r    gekust heeft**  
                  that    John   yesterday   her    kissed has

(41) and (42) suggest that the clitic is not necessarily adjacent to the subject, just like full noun phrases and pronouns. In all cases, however, weak pronouns prefer the position to the left of sentence adverbs, unlike full pronouns and full noun phrases. As before, this suggests that the weak pronouns move to different positions than full pronouns and noun phrases.

## b. Double Object Constructions

The neutral order of constituents in double object constructions in Dutch is Indirect Object-Direct Object:

- (43) a.            **..dat    Jan    Marie    het boek    gegeven heeft**  
                  that    John   Mary    the book    given has  
                  "..that John gave Mary the book."  
       b.    ?? **..dat    Jan    het boek    Marie gegeven heeft**  
                  that    John   the book    Mary   given has

However, when one of the objects is a weak pronoun, the weak pronoun precedes the full noun phrase:

<sup>21</sup> With VP-adverbs and modal particles the facts are clearer. The weak object pronoun always precedes these types of adverbs. But here again intonational factors are relevant, as deaccented noun phrases must precede VP-adverbs and D-linked noun phrases (such as pronouns) must precede modal particles.

- (44) a. **..dat Jan 't Marie gegeven heeft**  
           that John it Mary given has  
           "..that John gave it Mary."  
       b. ?? **..dat Jan Marie 't gegeven heeft**  
           that John Mary it given has
- (45) a. **..dat Jan 'r het boek gegeven heeft**  
           that John her the book given has  
           "..that John gave her the book."  
       b. \* **..dat Jan het boek 'r gegeven heeft**  
           that John the book her given has

When both objects are weak pronouns, the order is free, with a slight preference for the order Direct Object-Indirect Object:<sup>22</sup>

- (46) a. **..dat Jan 't'r gegeven heeft**  
           that John it her given has  
           "..that John gave it her."  
       b. ? **..dat Jan 'r't gegeven heeft**  
           that John her it given has  
           "..that John gave her it."

These facts support the hypothesis that the weak pronouns in Dutch are (special) clitics, and move to positions unavailable to strong pronouns and phrasal noun phrases.

Full noun phrases have to move to a position in which they can be licensed: the specifier of a functional head. Apparently, it is required that the functional projection designated for licensing the Indirect Object is ranked in between the AgrSP and the AgrOP.<sup>23</sup> But none of these considerations are relevant for the position of the double object clitics. This shows that the weak pronouns are syntactically different from the full noun phrases.

<sup>22</sup> Unlike in West Flemish, the double object clitics in Dutch cannot be split. Neither can they adjoin to the complementizer, as is also a possibility in West Flemish, as well as in several dialects spoken in the South of the Netherlands. See below and Haegeman (1992).

<sup>23</sup> I assume here that Indirect Objects are noun phrases and that they are licensed in the specifier position of an AgrOP. As Den Dikken and Mulder (1991) show, the Indirect Object behaves just like the Direct Object in licensing parasitic gaps. The assumption that both objects move to their licensing position in overt syntax in Dutch also accounts for a problem discussed in Den Dikken and Mulder (1991). This is the fact that the order of the two objects is invariant, no matter where the sentence adverb appears (the adverb may appear before and after each of the three argument noun phrases). This is explained under our assumption that scrambling paradigms do not involve optional movements of the objects, but adjunction of the adverb in different positions. In other words, the relative position of the two objects is fixed because their absolute position is.

Consider the following Exceptional Case Marking constructions:

- In (47)–(48), *Jan* is the subject of the embedded clause. The object of the embedded clause, *Marie/her/’r* can precede the subject of the embedded clause only if the object is a weak pronoun.

In the minimalist approach, the paradigm in (47)-(48) may be analyzed as follows. Assume that the functional domain in Dutch has a syntactic structure as in Figure 1 of section I.2.2. Recall that we have assumed that in Dutch, direct objects always move to the specifier of AgrOP (see section II.4.3 and III.2). This assumption is necessary if we choose not to accept optional movement. Therefore the object of the embedded clause in (48) must be in the specifier position of an AgrO head. The subject of the matrix clause in both (47) and (48) is assumed to be in the specifier position of AgrSP (section II.4.3). It goes without illustration here that the object of the embedded clause cannot precede the subject of the matrix clause. Therefore, the structure of (47) must have the following rough frame:

- (49) C spec,AgrS AgrS spec,AgrO AgrO VP  
dat Piet Marie/haar heeft zien kussen

Exceptional Case Marking constructions raise the question where to fit in the subject of the embedded clause. This subject is formally an object of the matrix verb *zien* 'see'. This can be concluded from the objective case of the embedded subject when it is a pronoun:

- (50)      ..dat    Piet   hem/\*hij   Marie heeft zien kussen  
             that   Pete   him/he   Mary   has   see kiss  
             "..that Pete saw him kiss Mary."

Hence, the embedded subject must be the specifier of an AgrO as well (Vanden Wyngaerd 1989b, Haegeman 1992). Apparently, this AgrO is located between the AgrS and the embedded AgrO designated for licensing the embedded object:

- (51) C            spec,AgrS   AgrS   spec,AgrO   AgrO   spec,AgrO   AgrO   VP  
          **dat**   **Piet**                   **Jan/hem**                   **Marie/haar**                   **heeft...**

The three noun phrases in (51) have been moved from positions inside the VP in such a way that their paths cross.<sup>24</sup>

- (52)            SUBJ-1        SUBJ-2    OBJ-2        [ s-1   V-1 [ s-2 V-2   o-2 ] ]  
          **Piet**            **Jan**           **Marie**                   **zien**            **kussen**

As (48) shows, a derivation in which the paths of the embedded subject and the embedded object do *not* cross crashes. This is surprising, given the observation that dependencies are generally nesting rather than crossing (Pesetsky 1982).<sup>25</sup>

Crucially, the embedded object *does* appear to the left of the embedded subject when the embedded object is a weak pronoun (47a). This indicates that there are different forces at work here. The full noun phrase object is forced to move to the spec of AgrO to get its Case features checked. After that, no further movement is allowed, by economy. The weak pronoun moves further to the left. We do not know where it moves and what triggers the movement, but we do know that weak pronoun movement targets a different syntactic position than noun phrase movement.

<sup>24</sup> The auxiliary *heeft* 'has' is left out in (52) for expository reasons. The lower case *s* and *o* indicate the traces of the subject and object, respectively. The numbers indicate the hierarchy of the verbs and the affiliation of the arguments with these verbs at the initial stage of the derivation. It is assumed that the subject is first generated inside VP (Kitagawa 1986, Sportiche 1988, many others).

<sup>25</sup> Pesetsky (1982) formulates a Path Containment Condition prohibiting crossing paths. However, this condition was devised for dependencies involving A'-positions. If the specifier position of an AgrP is an A-position, we do not automatically expect the Path Containment Condition to be applicable. It appears to be the case that movement to an agreement projection is generally crossing rather than nesting (cf. Chomsky 1993:18; Chomsky derives the crossing character of movement to AgrP from the shortest steps requirement of economy of derivation).



### d. Adjunction to C

In West Flemish (WF) and other Dutch dialects spoken in Belgium and in the South of the Netherlands, weak objects may precede the subject in embedded clauses and inversion constructions.<sup>26</sup> This option is not open to full noun phrases:

- (53) a. **..da Jan 't ze gisteren gegeven eet** WF  
           that John it(DO-cl) her(IO-cl) yesterday given has  
           "..that John gave it to her yesterday."  
       b. **..da't ze Jan gisteren gegeven eet**  
           that it her John yesterday given has  
           "..that John gave it to her yesterday."  
       c. **..da 't Jan ze gisteren gegeven eet**  
           that it John her yesterday given has  
           "..that John gave it to her yesterday."
- (54) a. **..da Jan Marie dienen boek gisteren gegeven eet**  
           that John Mary that book yesterday given has  
           "..that John gave that book to Mary yesterday."  
       b. \* **..da Marie dienen boek Jan gisteren gegeven eet**  
           that Mary that book John yesterday given has  
           "..that John gave that book to Mary yesterday."

In (54), it is understood that *Marie* is the indirect object and *Jan* the subject. Again, these facts show that weak pronouns and full noun phrases are in different positions.

This concludes the survey of the word order phenomena supporting the idea that the weak pronouns in Dutch are clitics. One explanation for the different placement of the weak pronouns is that they are heads. If so, they must either be generated in the position of functional heads, or be adjoined to functional heads. In both cases, the distribution of the clitics would indicate that the functional projections in Dutch are head initial.

### 2.1.4 Conclusion

In this section, I have argued that the weak pronouns in Dutch are not phonologically reduced variants of the strong pronouns, and that the distribution of the weak pronouns suggests that they are not in specifier positions, like full noun phrases. Both properties of the weak pronouns in Dutch are accounted for if we assume that they are (special) clitics, and, hence, heads.

<sup>26</sup> See note 31 of chapter II.

In the next section, we will consider the distribution of clitics in West Flemish in more detail. The analysis suggests a close link between the distribution of the clitics and the position of the functional heads.

## 2.2 Object Clitics in West Flemish

According to Haegeman (1991), the weak pronouns in West Flemish must be analyzed as special clitics, just like the weak pronouns in Dutch. There are two complications in West Flemish which turn out to be significant for the analysis of cliticization in Dutch.

First, West Flemish subject clitics may be doubled by a pronoun (Bennis and Haegeman 1984, Haegeman 1990, 1991, De Geest 1990, Zwart 1992c). The pronoun obligatorily follows the subject clitic, but may be separated from it by the finite verb. The phenomenon is illustrated in (55)-(56).<sup>27</sup>

- |      |    |                     |              |             |              |
|------|----|---------------------|--------------|-------------|--------------|
| (55) | a. | <b>..dase</b>       | <b>zie</b>   | <b>komt</b> | West Flemish |
|      |    | dat she-CL          | she          | comes       |              |
|      |    | "..that she comes." |              |             |              |
|      | b. | * <b>..dase</b>     | <b>Marie</b> | <b>komt</b> |              |
|      |    | that she-CL         | Mary         | comes       |              |
- 
- |      |    |                 |             |             |
|------|----|-----------------|-------------|-------------|
| (56) | a. | <b>Ze</b>       | <b>komt</b> | <b>zie</b>  |
|      |    | she-CL          | comes       | she         |
|      |    | "She's coming." |             |             |
|      | b. | * <b>Zie</b>    | <b>ze</b>   | <b>komt</b> |
|      |    | she             | she-CL      | comes       |
|      | c. | * <b>Zie</b>    | <b>komt</b> | <b>ze</b>   |
|      |    | she             | comes       | she-CL      |

As (55b) shows, the subject clitic cannot be doubled by a nonpronominal full noun phrase.

Second, the distribution of object clitics in West Flemish appears to be freer than in Dutch. For example, object clitics may precede the subject in embedded clauses (see (53)). Another difference is that in West Flemish the direct object clitic may appear to the right of a phrasal indirect object (cf. Dutch (44b)):

<sup>27</sup> In the examples, *ze* is always a clitic, and *zie* is always a full pronoun. *Ze* is the West Flemish subject and object 3SG feminine pronoun. The initial consonant of *ze* may devoice when *ze* adjoins to C or to a verb in C.

- (57) a. **..da Jan 't Marie gegeven eet**  
           that John it Mary given has  
           "..that John gave it to Mary."  
       b. **..da Jan Marie 't gegeven eet**  
           that John Mary it given has  
           "..that John gave it to Mary."

However, as in Standard Dutch (cf. (45b)), the indirect object clitic may not appear to the right of the phrasal direct object in West Flemish:

- (58) a. **..da Jan ze dienen boek gegeven eet**  
           that John her that book given has  
           "..that John gave her that book."  
       b. \* **..da Jan dienen boek ze gegeven eet**  
           that John that book her given has

Also as in Standard Dutch, the object clitic may not appear to the immediate right of a sentence adverb:

- (59) a. **..da Jan Marie 't gisteren gegeven eet**  
           that John Mary it yesterday given has  
           "..that John yesterday gave it to Mary."  
       b. \* **..da Jan Marie gisteren 't gegeven eet**  
           that John Mary yesterday it given has

The adjacency of the subject and the object clitic in Dutch suggests that object clitics can be adjoined to AgrS. The facts from West Flemish show that there must also be clitic positions to the left of AgrS (cf. (53)) and to the right of AgrS (cf. (57)). In (53b), the object clitics cannot be adjoined to AgrS, because the subject intervenes between AgrS and the object clitic.<sup>28</sup> In (57b), the direct object clitic *'t* 'it' cannot be adjoined to AgrS, because the indirect object *Marie* intervenes between the direct object clitic and the subject *Jan*.<sup>29</sup> Therefore, the object clitic must be in a position lower than AgrS in (57b).

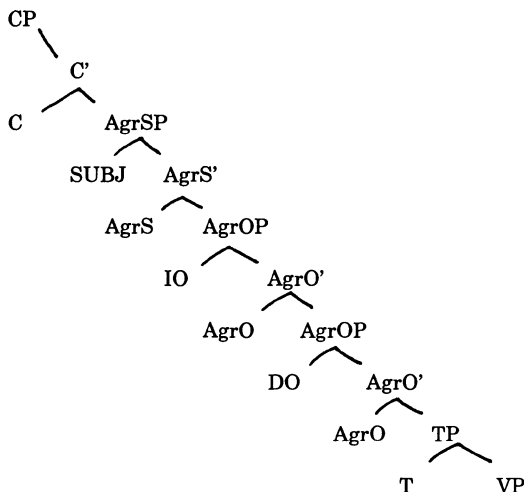
Thus, the facts from West Flemish show that there must be at least three clitic positions: C, AgrS, and a head position to the right of AgrS. Haegeman (1991) argues that this third clitic position is the head of an Agr projection designated for the licensing of the indirect object.

<sup>28</sup> I assume here, as for Dutch, that the subject is in the specifier position of AgrS. In West Flemish, the subject cannot be separated from the complementizer by intervening XPs (Liliane Haegeman, p.c.).

<sup>29</sup> I assume here, as is standard, that XPs may not intervene between a head and its specifier. In other words, whenever a phrase  $\alpha$  and a head  $\beta$  are separated from each other by another phrase,  $\alpha$  and  $\beta$  are not in a specifier-head configuration. In other words, I do not adopt the multiple specifier proposal of Chomsky (1995).

Haegeman assumes the following structure for the functional domain in West Flemish:

(60)



Haegeman assumes for West Flemish what we have assumed for Standard Dutch, namely that both direct objects and indirect objects move to the specifier position of an Agreement Phrase in overt syntax, and that the Agreement Phrase designated for licensing indirect objects is higher than the Agreement Phrase designated for direct objects (see section 2.1.3.b).

Haegeman assumes a movement analysis of cliticization.<sup>30</sup> The clitics are generated as arguments of the verb and moved to a head position at some point in the derivation. Haegeman argues that the clitics first move to the specifier position of the relevant Agreement Phrase, and from that position adjoin to the first head up. After that, subsequent head movement is possible to all the heads higher in the tree.

It follows from these assumptions that the higher AgrO head is the lowest clitic position. Consider cliticization of the direct object. The direct object first moves to the specifier position of the lower AgrOP. From there the direct object cliticizes to the head of the higher AgrOP. Subsequently, the direct object clitic may move to the head of AgrSP and to C. It follows that there are three clitic positions in West Flemish.

It also follows that the indirect object may precede the direct object clitic, as in (57b). The indirect object moves to the specifier position of the

<sup>30</sup> See Sportiche (1992) and Haverkort (1992) for recent discussion of the movement versus base generation analysis of cliticization.

higher AgrOP in overt syntax. If the direct object clitic, after adjoining to the head of this AgrOP, does not move on, it will appear to the right of the indirect object. It also follows that the direct object may not precede the indirect object clitic, as in (58b). The direct object moves to the specifier position of the lower AgrOP in overt syntax. The indirect object clitic, after moving to the specifier position of the higher AgrOP, can only adjoin to AgrS and move on to C. Thus, the indirect object clitic will always appear to the left of the direct object.

These results of Haegeman's analysis are maintained in a base generation analysis of cliticization. In a base generation analysis, the clitics would not first move to the specifier position of an Agreement Phrase and subsequently adjoin to a higher head. Rather, the clitics would be generated either as functional heads or in a position adjoined to existing functional heads.<sup>31</sup>

Consider again direct object cliticization. We now assume that the direct object clitic is base generated in the lower AgrO head. The indirect object moves to the spec of the higher AgrOP in overt syntax. Thus, the indirect object may precede the direct object clitic, as in (57b). The direct object clitic may also move on, to the head of the higher AgrOP, and to AgrS and to C. This yields the orders in (57b), (57a), and (53c), respectively.

On the other hand, the indirect object clitic is generated in, or adjoined to, the head of the higher AgrOP. The direct object moves to the spec of the lower AgrOP in overt syntax. It follows that the direct object may not precede the indirect object clitic, as in (58b).

Haegeman's analysis, and its reformulation in terms of a 'base generation' analysis, allows us to draw an important conclusion:

there is a relation between the position of the functional projections designated for the licensing of phrasal arguments and the possible position of argument clitics corresponding to these phrasal arguments.

<sup>31</sup> Sportiche (1992) argues that clitics are generated as heads of Clitic Phrases. The specifier of the clitic phrase would be filled by a definite noun phrase. In clitic doubling languages, the noun phrase in the specifier position of the Clitic Phrase would be overt, in languages without clitic doubling, it would be a *pro*. I have argued in Zwart (1993b:141f) that a more economical implementation of Sportiche's analysis would be that the clitics are generated as heads of the familiar Agreement Phrases. A more exact formulation would be that clitics are generated as adjuncts to the heads of the Agreement Phrases, as the Agreement heads themselves have a syntactic function independent of the presence of clitics (see Den Dikken 1995b and below, section VII.3).

For example, the explanation for the ungrammaticality of (58b) is based on the assumption that indirect object clitics cannot appear in a position lower than the AgrP designated for the licensing of indirect object phrases. More generally, subject clitics are generated in (or adjoined to) AgrS and cannot appear to the right of AgrS. Indirect object clitics are generated in (or adjoined to) the higher AgrO, and cannot appear to the right of the higher AgrO. Direct object clitics are generated in (or adjoined to) the lower AgrO, and cannot appear to the right of the lower AgrO.

Now let us turn to a closer analysis of clitic placement in West Flemish.

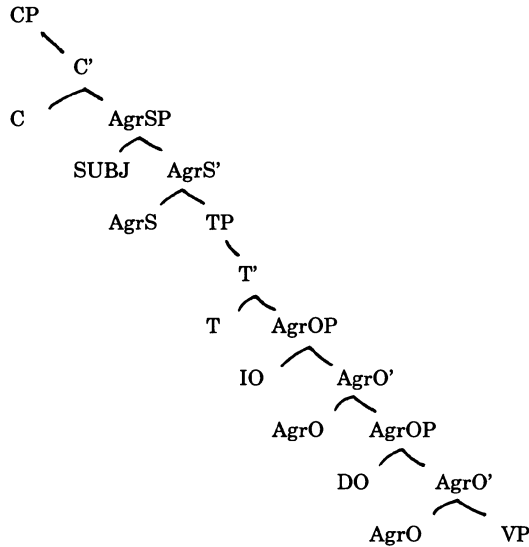
The structure of the functional domain of West Flemish according to Haegeman (1991), illustrated in (60) in the previous section, differs slightly from the structure of the functional domain adopted in this book (cf. section I.2.2, Figure 1). In particular, TP (the projection of the tense features) is the lowest functional projection in Haegeman's structure, whereas in the structure adopted here, TP is situated in between AgrSP and the AgrOPs.

In Chomsky (1993:7), TP is considered to be closely associated with AgrSP, a reflection of the traditional close association of tense and agreement (cf. Chomsky 1981).

I would like to consider here the question whether Haegeman's results will be lost when her structure is rejected in favor of the structure adopted in section I.2.2. It will turn out to be the case that Haegeman's analysis of clitic placement in West Flemish can be maintained under the assumptions of the Minimalist Program of Chomsky (1993).

The structure of the functional domain adopted in this book is illustrated in (61) (cf. (60)).

(61)



Recall that the following word order pattern has to be explained. In a double object construction in West Flemish, the direct object clitic may precede or follow the phrasal indirect object, but the indirect object clitic must precede the phrasal direct object. The relevant facts are repeated here for convenience:

- (57) a. **..da Jan 't Marie gegeven eet** West Flemish  
 that John it Mary given has  
 "...that John gave it to Mary."
- b. **..da Jan Marie 't gegeven eet**  
 that John Mary it given has  
 "...that John gave it to Mary."
- (58) a. **..da Jan ze dienen boek gegeven eet**  
 that John her that book given has  
 "...that John gave her that book."
- b. \* **..da Jan dienen boek ze gegeven eet**  
 that John that book her given has

It is easy to see that the position of TP does not affect the explanation of this word order pattern of Haegeman (1991). The direct object clitic is generated in the lower AgrO, and may stay there or move on to the higher AgrO, T, AgrS, or C. The indirect object moves to the specifier position of the higher AgrO in overt syntax. Hence, the direct object clitic may precede or follow the phrasal indirect object. The indirect object clitic is generated in the higher AgrO. The phrasal direct object moves to the

specifier position of the lower AgrO in overt syntax. Hence, the indirect object clitic may only appear to the left of the phrasal direct object. In sum, Haegeman's analysis of the word order pattern in (57)-(58) stays in force when the minimalist structure of the functional domain in (61) is adopted.

However, the adoption of the minimalist structure has one nontrivial consequence. Because TP now dominates both object agreement phrases, an additional head, T, is available for the object clitics to move to. In other words, (61) predicts that there are two clitic positions between the position of the subject (spec,AgrS) and the position of the indirect object (the specifier position of the higher AgrO), namely T and AgrS, whereas (60) predicts that there is only one such position, namely AgrS.

At this point, the West Flemish subject clitic doubling phenomenon becomes relevant (see (55)-(56)). Importantly, object clitics may appear between the doubling pronoun and the indirect object. Since the indirect object is in the specifier position of the higher AgrOP, the position of the object clitic shows that there must be a functional head between AgrSP and AgrOP:

- (62) a.    **Z'ee**            **zie**    **Marie**    **'t**    **gegeven**  
           she-CL has    she    Mary    it    given  
           "She gave it to Mary."  
       b.    **Z'ee**            **zie**    **'t**    **Marie**    **gegeven**  
           she-CL has    she    it    Mary    given  
           "She gave it to Mary."  
       c.    **Z'ee't**            **zie**    **Marie**    **gegeven**  
           she-CL has it    she    Mary    given  
           "She gave it to Mary."

We have assumed that the direct object clitic is generated in (or adjoined to) the head of the lower AgrOP in (60)/(61). We have also assumed that clitics may move to higher functional heads.

In (62), the indirect object *Marie* has been moved to the specifier position of the higher AgrOP. Therefore, in (62a), the direct object clitic may be in its original position, the head of the lower AgrOP, or in the head of the AgrOP associated with *Marie*.

In (62c), the subject clitic is generated in (or adjoined to) AgrS. We cannot say that the subject clitic has been moved to the higher functional head C. First, it is not clear that a CP has been projected in (62). There is no preposed topic or wh-element that requires generating a CP-level in addition to the AgrSP. Second, we know that when a subject clitic adjoins to C, it ends up to the right of the element in C:



- (63) a. **..dase't**                **zie**    **Marie**    **gegeven eet**  
           that she-SCL it    she    Mary    given has  
           "..that she gave it to Mary."  
       b. **Gisteren**    **eese't**                **zie**    **Marie**    **gegeven**  
           yesterday    has she-SCL it    she    Mary    given  
           "Yesterday, she gave it to Mary."

Therefore, we must assume that the verb *ee* 'has' in (62) is in AgrS, and that the direct object clitic has been moved to AgrS in (62c).

The doubling pronoun *zie* appears between the verb in AgrS and the indirect object in (62). If *zie* were adjoined to the verb in AgrS, we would expect the direct object clitic in (62c) to adjoin to the right of *zie*. Therefore, the doubling pronoun cannot be adjoined to AgrS. We assume that it is an XP (following Haegeman 1991).

In (62b), the object clitic appears between the doubling pronoun *zie* and the indirect object *Marie*. This shows that there is a functional head position between AgrS (occupied by the verb *ee*) and the higher AgrOP (the specifier position of which is occupied by the indirect object). The structure in (61) has such a position, T. At the same time, the structure in (61) provides a specifier position for the doubling pronoun *zie*. The structure in (60), in which TP is further down in the tree, does not provide a position for the object clitic in (62b), and for the doubling pronoun more generally.

Thus, the clitic doubling phenomenon of West Flemish shows that (61) is the correct structure of the functional domain.<sup>32</sup> In this structure, there are four functional projections in addition to CP. All functional projections are head initial.

## 2.3 Conclusion

In this section I have argued for the following points:

1. Dutch weak pronouns are special clitics in the sense of Zwicky (1977).
2. Dutch clitics are generated in (or adjoined to) the head of agreement phrases.

<sup>32</sup> This argument can only be circumvented by assuming that the finite verb is in C in neutral order main clauses in West Flemish (and Dutch). One of the main conclusions of this book is that we cannot adopt such a generalized V-to-C movement. Notice that the assumption that the finite verb is in C in (62) would leave the Clitic-Verb inversion in topicalization constructions in Dutch and West Flemish unexplained. See Zwart (1992c) for extensive discussion.

3. Clitics may undergo additional head movement, involving adjunction to a higher functional head.

Since clitics in Dutch do not appear in sentence final position, it follows that the agreement phrases in Dutch are head initial. One of the consequences of the third point is that clitics may adjoin to T. I have argued that adjunction of object clitics to T can be demonstrated in West Flemish. It follows that TP in West Flemish is head initial as well, and there seems to be no reason to assume that Standard Dutch differs from West Flemish in this respect.

### 3 Complementizer Agreement and Double Agreement

In this section, the phenomenon of complementizer agreement (see section II.1.2.2) will be presented and discussed. The analysis of this phenomenon provides another piece of evidence in support of the hypothesis that the functional projections in Dutch are head initial. This argument is based on the observation that certain Dutch dialects have one type of agreement for the complementizer and the verb in C, and another type of agreement for the verb that is not in C (I will refer to these dialects as *double agreement dialects*). In these dialects, the verb in subject initial main clauses has the second type of agreement.<sup>33</sup> This leads to the conclusion that in the relevant dialects AgrS is situated to the left of the VP.

This section is organized in the following way. The phenomena of complementizer agreement and double agreement are presented in section 3.1. The relevance of these phenomena for the position of the functional heads is discussed in section 3.2. In section 3.3, previous analyses of complementizer agreement will be discussed. I will demonstrate, contra Hoekstra and Marác (1989), that complementizer agreement is a reflex of *abstract* Agr-to-C movement, rather than movement of an overt agreement morpheme from Agr to C. A more detailed analysis of complementizer agreement and double agreement will be postponed until after chapter V.

<sup>33</sup> As noted by Gärtner and Steinbach (1994), other double agreement dialects (e.g. Lower Bavarian) have one form for the verb in inversion constructions and subject initial main clauses, and another form for the verb in embedded clauses. We will return to the difference between the Dutch dialects and Lower Bavarian in section VII.2.

### 3.1 Complementizer Agreement Phenomena in Germanic Dialects

Numerous dialects of Dutch, German, and Frisian display a phenomenon of complementizer agreement, where the complementizer is inflected for person and/or number and agrees with the subject.<sup>34</sup> At the same time, the finite verb is also inflected. The inflectional morphemes used are generally identical, but not always (cf. Van Haeringen 1958 and below).

The paradigms are mostly defective. For instance, East Netherlandic has an agreeing complementizer only in the first person plural (1PL), South Hollandic only in 1PL and 3PL, Frisian only in 2SG, Munich Bavarian only in 2SG and 2PL. West Flemish has a complete paradigm (Goeman 1980, Haegeman 1990).

In large areas of the Netherlands (West Friesland, North Holland, South Holland, also in the Center and East of the country (Van Haeringen 1939, 1958), the agreement morpheme for PL is  $\varnothing$  (*schwa*). In German dialects and in Dutch dialects spoken in the Northeast and the Southeast, as well as in Frisian, there is an agreement morpheme for 2SG (and sometimes 2PL) *-s(t)*.<sup>35</sup> Luxemburgish combines the two types of agreement (Bruch 1973). Lower Bavarian in addition has a 1PL morpheme *-ma* (Bayer 1984a). The Brabantish dialect of Dutch has a morpheme *-de* for 2SG/PL (Stroop 1987). The Flemish dialects of Dutch have a full paradigm, with a morpheme *-n* for 1SG, 1PL, and 3PL, presumably a zero morpheme ( $\varnothing$ ) for 2SG, and a *-t* morpheme for 3SG/2PL (cf. Goeman 1980, Haegeman 1990).

The following are examples from the Dutch dialects South Hollandic (Van Haeringen 1939), West Flemish (Haegeman 1990), and Groningen (Van Ginneken 1939), from Frisian (Hoekstra and Marácz 1989), and from the German dialects Munich Bavarian (Kufner 1961) and Luxemburgish (Bruch 1973).

<sup>34</sup> The complementizer agreement phenomenon is well documented. The following is a list of references. For Dutch dialects: Van Haeringen (1939; 1958), Van Ginneken (1939), Weijnen (1939), De Vries (1940), Vanacker (1949), De Visser (1979), Goeman (1980), Bennis and Haegeman (1984), Stroop (1987), De Geest (1990), Haegeman (1990, 1991), Hoekstra (1993), Hoekstra and Smits (1995); for Frisian dialects: Hoekema (1955), De Haan and Weerman (1986), Visser (1988), Van der Meer (1991), De Haan (1992); for German dialects: Weise (1907), Pfalz (1918), Van Ginneken (1939), Kufner (1961), Bruch (1973), Altmann (1984), Bayer (1984a,b), Körner (1984), Werner (1988), Harnisch (1989). In addition to the works mentioned, the phenomenon is discussed in Hoeksema (1986), Hoekstra and Marácz (1989), Zwart (1993a,b,d), Law (1991), Platzack (1992), Shlonsky (1994), among others.

<sup>35</sup> The status of the *-s(t)* ending on the complementizer in Germanic dialects has been hotly debated for at least a century now. The *-s-* element, which also shows up in the verbal agreement, appears to be inflectional, but it may be the case that the *-st* ending combines a complementizer agreement element and a subject clitic. For recent discussion, cf. Van der Meer (1991) and De Haan (1992).

- (64) a. **..dat ik kom** South Hollandic  
           that I come  
       b. **..datte we komme**  
           that-PL we come-PL
- (65) a. **..da-n-k ik komen** West Flemish  
           that 1SG I I come-1SG  
       b. **..da-Ø-j gie komt**  
           that 2SG you you come-2SG  
       c. **..da-t-j ij komt**  
           that 3SG he he come-3SG  
       d. **..da-Ø-se zij komt** [Ø < t]  
           that 3SG she she come-3SG  
       e. **..da-Ø-me wonder komen** [Ø < n]  
           that 1PL we we come-1PL  
       f. **..da-Ø-j gunder komt** [Ø < t]  
           that 2PL you you come-2PL  
       g. **..da-n-ze zunder komen**  
           that 3PL they they come-3PL
- (66) a. **..of ik kom** Groningen  
           whether I come  
       b. **..of-s toe koms**  
           whether 2SG you come-2SG
- (67) a. **..datst (do) jûn komst** Frisian  
           that-2SG you tonight come-2SG  
       b. **..dat (er) jûn komt**  
           that he tonight come-3SG
- (68) a. **..damid ich komm** Munich Bavarian  
           sothat I come  
       b. **..damidsd kommsd**  
           sothat-2SG come-2SG  
       c. **..damidds kommds**  
           sothat-2PL come-2PL
- (69) a. **..ob ech wëll** Luxemburgish  
           whether I want  
       b. **..ob s du wëlls**  
           whether 2SG you want-2SG  
       c. **..datt e mir wëllen**  
           that PL we want-PL

In these dialects, the agreement morpheme on the complementizer is identical to the agreement morpheme on the verb. However, Van Haeringen (1958) reports on East Netherlandic dialects in which the complementizer agreement (c) and the verbal agreement (v) differ. I will refer to this phenomenon as *double agreement*:

<sup>38</sup> The morpheme *-ma* appears together with the full 1PL pronoun *mir*. It differs from the West Flemish subject clitics (which can be doubled by a pronoun, as in *ze komt zie* [SCL comes she] 'she's coming') in that *-ma* is always enclitic to the verb. This suggests that *-ma* is not a subject clitic doubled by a full pronoun. *-ma* furthermore differs from the Brabantish morpheme *-de* in that it also occurs in subject initial main clauses (compare Lower Bavarian *Mir fahrma* 'we go' and Brabantish *Gē liegt* / \**liegde* 'you're lying').

- (73) a. **..datte wy speul-t/\*-e** East Netherlandic  
 that we play 1PLv/c  
 b. **Wy speul-t/\*-e**  
 we play 1PLv/c  
 c. **Waor speul-e/\*-t wy?**  
 where play 1PLc/v we  
 "Where do we play?"
- (74) a. **..dade gullie kom-t/\*-de** Brabantish  
 that 2PLc you come 2PLv/c  
 b. **Gullie kom-t/\*-de**  
 you come 2PLv/c  
 c. **Wanneer kom-de/\*-t gullie?**  
 when come 2PLc/v you  
 "When do you come?"
- (75) a. **..da-Ø-j gie kom-t/\*-Ø**  
 that 2SG you you come 2SGv/c  
 "...that you come."  
 b. **Gie kom-t/\*-Ø** West Flemish  
 you come 2SGv/c  
 c. **Kom-Ø-j/\*-t-j gie?**  
 come 2SGc/v you you  
 "Are you coming?"

This type of double agreement is reminiscent of a peculiar agreement phenomenon in Standard Dutch, where the choice of the 2SG morpheme depends on whether the verb preceeds or follows the subject (section II.1.1.1; cf. Goeman 1992):

- (76) a. **Jij loop-t/\*-Ø** Standard Dutch  
 you walk 2SG  
 b. **Daar loop-Ø/\*-t jij**  
 there walk 2SG you

In another type of double agreement, the verb has verbal agreement in embedded clauses, and complementizer agreement in main clauses. This type is represented by Lower Bavarian (Bayer 1984a):

- (77) a. **..das-ma mir noch Minga fahr-n/\*-ma** Lower Bavarian  
 that 1PLc we to Munich go 1PLv/c  
 "...that we are going to Munich."  
 b. **Mir fahr-ma/\*-n noch Minga**  
 we go 1PLc/v to Munich  
 c. **Fahr-ma/\*-n mir noch Minga?**  
 go 1PLc/v we to Munich  
 "Are we going to Munich?"

In the next section, I will discuss the relevance of the double agreement phenomenon for the question whether the functional projections are head initial or head final.<sup>39</sup>

### 3.2 The Position of AgrS

The complementizer agreement phenomenon in Germanic has often been taken to indicate that in the relevant languages (Dutch, German, Frisian) C is an inflectional category. This leads to an analysis in which the agreement features are generated in C (see section II.2.3 and references cited there; cf. also Goeman 1980).

There is an obvious connection with the traditional analysis of verb movement in main clauses in these languages. According to this analysis, the verb moves to C in all tensed main clauses (Den Besten 1977). If C is analyzed as an inflectional category, it becomes understandable that the verb has to move to C whenever C is not occupied by the complementizer.

This analysis of verb movement in Germanic as attraction by a C hosting inflectional features was first proposed by Den Besten in a 1983 Appendix to his 1977 paper. This appendix summarizes the main points of Den Besten (1978). Den Besten proposes that verb movement in Dutch (and German) is actually tense movement: movement of a tensed verb to a tensed C.<sup>40</sup>

However, Den Besten (1989:93) is very careful not to confuse the tense feature in C with the agreement features in C. He notes that "these person endings [on agreeing complementizers] must be generated in a position separate from the complementizer position, (...) because deletion of a lexical complementizer does not force a person marking to delete as well".

The phenomenon Den Besten has in mind is best illustrated with the following example from Luxemburgish (Bruch 1973:106).

- (78)            **..mat wiem    (datt)    s        de    spazéiere    gaang bas**  
                  with whom    that        2SG    you    walk        gone are  
                  "...with whom you went for a walk."

In (78) the complementizer is optional, but the agreement ending remains.

<sup>39</sup> The theoretical possibility that complementizer agreement is phonetically or phonologically determined has been discarded as early as Van Haeringen (1939), and will not be considered here (see also Hoeksema 1986).

<sup>40</sup> This is essentially the same mechanism as movement for feature checking purposes in the Minimalist Program.

Den Besten analyzes the complementizer as a tense element (T) and the agreement ending as a person (P) element, and notes that the T-P ordering in the inflected complementizers is mirrored in the verbal morphology, where the person morpheme follows the tense morpheme:

|      |           |                  |                |
|------|-----------|------------------|----------------|
| (79) | <b>ze</b> | <b>lach-t-en</b> | Standard Dutch |
|      | they      | laugh PAST 3PL   |                |

Accepting Den Besten's point that the complementizer agreement morphology is not generated on the complementizer, we must conclude that there is a separate inflectional head associated with person agreement. This leads to a different type of analysis, in which complementizer agreement reflects movement from this separate functional head to C.

Such an analysis is proposed by Hoekstra and Marácz (1989). Hoekstra and Marácz (1989) argue that complementizer agreement is the result of INFL moving to C. This INFL-to-C movement is needed because the tense features (generated in INFL) must be united with C. C hosts a "T-marker", a scope bearing element marking INFL for a specific tense feature. Hoekstra and Marácz propose that the T-marker and the tense features can be united in one of two ways. Either the T-marker binds the tense features, or INFL moves to C. In the latter case, the agreement features generated in INFL (cf. Chomsky 1981:52) end up in C as well, yielding complementizer agreement as a morphological reflex of INFL-to-C movement.

Hoekstra and Marácz' analysis crucially involves the following two proposals. First, the agreement features (the person element in Den Besten's 1978 analysis) are not generated in C, but in a lower functional head, INFL. Second, the lower functional head INFL may move to C independently of verb movement. In complementizer agreement dialects, INFL moves to C in embedded clauses, even though the verb does not.<sup>41</sup> Both proposals are standard features of the Government and Binding framework (cf. Chomsky 1981 for the location of agreement features, and Stowell 1981 and Pesetsky 1982 for INFL-to-C movement).

I will assume that Hoekstra and Marácz' analysis of complementizer agreement is essentially correct. Reformulated in minimalist terms, the agreement features relevant for the complementizer agreement morphology reside in AgrS, and AgrS may move to C independently of verb movement (cf. Zwart 1993a,b,d). Complementizer agreement is a reflex of AgrS-to-C movement (see section VII.2 for more discussion).


<sup>41</sup> The independent INFL-to-C movement seems hard to reconcile with a traditional assumption of the syntax of Dutch, also adopted by Hoekstra and Marácz (1989), namely that IP is head final and that the verb moves to INFL in embedded clauses. See Zwart (1993a) for discussion.




Consider now the relevance of the double agreement phenomenon for the discussion of the position of AgrS in Dutch.

In complementizer agreement dialects, the verb in inversion constructions has the same agreement morpheme as the inflected complementizer. This supports Den Besten's (1977) proposal that in inversion constructions, the verb moves to C:

(80) *embedded clauses*

|             |                                                                                   |         |      |     |
|-------------|-----------------------------------------------------------------------------------|---------|------|-----|
| structure:  | C                                                                                 | SUBJECT | AgrS | V   |
| movements:  |  |         |      |     |
| morphology: | C+c                                                                               |         |      | V+v |

(81) *inversion constructions*

|             |    |                                                                                   |         |      |   |
|-------------|----|-----------------------------------------------------------------------------------|---------|------|---|
| structure:  | XP | C                                                                                 | SUBJECT | AgrS | V |
| movements:  |    |  |         |      |   |
| morphology: |    | V+c                                                                               |         |      |   |


In single agreement dialects, the complementizer agreement morphology (c) is identical to the verbal agreement morphology (v). In double agreement dialects, complementizer agreement and verbal agreement differ, and the verb in C shows complementizer agreement morphology. This follows from the hypothesis that complementizer agreement is a reflex of AgrS-to-C movement. By the Head Movement Constraint of Travis (1984), the verb must move from head to head, landing in AgrO, T, and AgrS before ending up in C.<sup>42</sup>

Notice that on the basis of embedded clauses and inversion constructions, no conclusions regarding the position of AgrS can be drawn.

Consider however subject initial main clauses. As discussed in section 3.1, there are two types of double agreement dialects. In one type, the verb in subject initial main clauses carries the verbal agreement morphology. This type, referred to here as the East Netherlandic type, shows that the verb does not move to C in subject initial main clauses:

<sup>42</sup> Alternatively, AgrS could move to C independently, and the verb could cross AgrS on its way to C (Zwart 1993b). This derivation would require a relaxation of the Head Movement Constraint, as proposed independently in Zwart (1996a). This problem dissolves if we adopt the theory of feature movement of Chomsky (1995) and chapter V below.

(82) *subject initial main clauses (East Netherlandic type)*

|             |         |                                                                                   |   |
|-------------|---------|-----------------------------------------------------------------------------------|---|
| structure:  | SUBJECT | AgrS                                                                              | V |
| movements:  |         |  |   |
| morphology: |         | V+v                                                                               |   |

If complementizer agreement is a reflex of AgrS-to-C movement, we must conclude that no AgrS-to-C movement takes place in subject initial main clauses in the East Netherlandic type of double agreement dialects. Since the verb does appear in the second position in the clause, we must conclude that the functional head hosting the verb, presumably AgrS, takes its specifier (the subject) to its left and its complement (TP) to its right.

In other words, the East Netherlandic facts show that AgrSP is head initial. There seems to be no reason to conclude that Standard Dutch differs from East Netherlandic in this respect.

The double agreement phenomenon as analyzed here confirms our initial minimalist analysis of verb movement in Dutch (see section II.4). In the analysis outlined there, the verb moves to AgrS in subject initial main clauses, and to C in inversion constructions. The traditional analysis, in which the verb moves to C in all types of main clauses, suffers from the problem that the position of the subject in subject initial main clauses (i.e., in Spec,CP) is unaccounted for. The present analysis does not suffer from that problem.

Notice, however, that the other type of double agreement dialects (referred to here as the Lower Bavarian type), does not support the analysis in (82). In the Lower Bavarian type, the verb shows complementizer agreement morphology in subject initial main clauses as well as in inversion constructions. Gärtner and Steinbach (1994) take this to support the traditional analysis of verb movement in Dutch and German, in which the verb moves to C always. If that is correct, the facts from Lower Bavarian are irrelevant for the question whether AgrSP is head initial or head final.

However, the Lower Bavarian type does not contradict the analysis in (82) either. Nothing seems to oppose an analysis of Lower Bavarian double agreement as in (83):

(83) *subject initial main clauses (Lower Bavarian type)*

|             |         |                                                                                   |   |
|-------------|---------|-----------------------------------------------------------------------------------|---|
| structure:  | SUBJECT | AgrS                                                                              | V |
| movements:  |         |  |   |
| morphology: |         | V+c                                                                               |   |

Since the complementizer agreement originates in AgrS (by hypothesis), the presence of complementizer agreement morphology on the verb is not necessarily incompatible with the verb moving to AgrS. This would imply, however, that the generalization that complementizer agreement morphology is a reflex of AgrS-to-C movement has to be modified for Lower Bavarian.

We will return to this issue in section VII.2.2.

### 3.3 AgrS-to-C Movement without Complementizer Agreement

As we have seen in section 3.2, Hoekstra and Marácz (1989) propose that complementizer agreement is a reflex of INFL-to-C movement. INFL-to-C movement is triggered by a requirement that the tense features (generated in INFL) be united with a T-marker located in C. Hoekstra and Marácz propose that languages may be parametrized with respect to tense movement. In some languages, the tense features move to the T-marker in C (INFL-to-C movement). In other languages, the T-marker in C binds the tense features in INFL. Only in the first type of languages do we encounter complementizer agreement.

In view of this, Hoekstra and Marácz introduce the *I-to-C Parameter*. Hoekstra and Marácz propose that this parameter divides the Germanic languages and dialects into two groups. The languages positively specified for the I-to-C parameter show complementizer agreement, the others do not.

In support of their analysis, Hoekstra and Marácz present and discuss three phenomena which they relate to a positive specification for the I-to-C parameter. These phenomena are: referential pro-drop, verb ellipsis in irrealis complement clauses, and complementizer cliticization. I will illustrate these phenomena below.

Hoekstra and Marácz' analysis raises the following question. If there is a parameter governing overt complementizer agreement, there must be a cluster of properties that to a certain extent correlate with the presence of complementizer agreement. More exactly, the phenomena Hoekstra and Marácz discuss should be present in those Germanic dialects that have

overt complementizer agreement, and absent in all others. If such a correlation cannot be attested, it is unlikely that there is an I-to-C parameter determining the presence of overt complementizer agreement.

Let us therefore turn to the three phenomena Hoekstra and Marác̑ relate to the I-to-C parameter, and see whether these phenomena constitute a cluster setting the complementizer agreement dialects apart.

### a. Referential Pro-drop

Some dialects showing overt complementizer agreement allow referential pro-drop. Below are examples from Frisian and West Flemish, both taken from Hoekstra and Marác̑ (1989).

- (84) a. **Komst (do) jûn?** Frisian  
 come-2SG you tonight  
 "Do you come tonight?"  
 b. **..datst (do) jûn komst**  
 that-2SG you tonight come-2SG  
 "..that you come tonight."
- (85) a. **Goa-Ø-se (zie) goan werken?** West Flemish (cf. (65))  
 go 3SG she-CL she go work  
 "Is she going to work?"  
 b. **..da-Ø-se (zie) komt**  
 that 3SG she-CL she come-3SG

It can be shown in the case of Frisian that in the absence of overt complementizer agreement referential pro-drop is not possible.

- (86) a. **Komt \*(er) jûn?** Frisian  
 come-3SG he tonight  
 "Is he coming tonight?"  
 b. **..dat \*(er) jûn komt**  
 that he tonight come-3SG  
 "..that he comes tonight."

In the case of West Flemish this cannot be demonstrated, because West Flemish has a complete complementizer agreement paradigm.

However, it is clear that referential pro-drop in West Flemish is related to subject cliticization rather than to complementizer agreement. If the subject clitic is left out and complementizer agreement retained, referential pro-drop is impossible. Consider the following 3PL examples:

- (87) a. **Goa-n-ze** (zunder) **werk een?** West Flemish  
go 3PL they-CL they work have  
"Are they going to have a job?"  
b. **Goa-n** \*(zunder) **werk een?**  
go 3PL they work have  
"Are they going to have a job?"
- (88) a. **..da-n-ze** (zunder) **goan werk een**  
that 3PL they-CL they go-3PL work have  
"..that they are going to have a job."  
b. **..da-n** \*(zunder) **goan werk een**  
that 3PL they go-3PL work have  
"..that they are going to have a job."

In (87a) and (88a), the subject clitic *ze* is doubled by a full pronoun *zunder* ‘they’. This full pronoun can be dropped, but not if the subject clitic is absent, as in (87b) and (88b). Note that in these examples the complementizer agreement (-*n*-) is present, but unable to license referential pro-drop.

The same may be the case in Frisian. The status of the Frisian complementizer agreement morpheme has been a subject of debate for a long time (see Van der Meer 1991, De Haan 1992 for recent discussions). It has been argued that this morpheme is really a subject clitic, reduced to the extent that it became unrecognizable as such, which made the optional addition of a pronoun possible. The similarity of the complementizer agreement to the verbal agreement would then be accidental.

It may well be the case that something along these lines took place, but the presence of the *-s-* preceding the *-to-/-te-/-t* morpheme is unaccounted for in this scenario. It is likely, therefore, that the *-sto-* morpheme and its variants are combinations of an agreement morpheme and a subject clitic (Hoeksema 1986, Visser 1988, De Haan 1992). If this is correct, again referential pro-drop could be related to cliticization rather than to complementizer agreement.<sup>43</sup>

<sup>43</sup> However, pro-drop in Frisian apparently may be licensed by the verbal 2SG agreement alone, witness examples like (i) (from De Haan 1992).

(i) **Moatst**      **my helpe**  
must-2SG      me help  
"You've got to help me."

Also, as pointed out to me by Josef Bayer (p.c.), even if there is historical evidence for the presence of a clitic element in the Frisian type inflected complementizer, this element does not function as a clitic anymore. Therefore, it may be the case that in certain languages and dialects, among which Frisian, pro-drop is licensed by agreement, and that in others (among  
(continued...)

When we consider other Germanic dialects, there appears to be no correlation whatsoever between complementizer agreement and referential pro-drop. Hoekstra and Marác (1989) mention the case of Zurich German as problematic for their generalization (cf. Cooper and Engdahl 1989). This dialect shows referential pro-drop, but no complementizer agreement:

- (89) a. **..dass (d/du) in Züri wohnsch** Zurich German  
           that you in Zurich live-2SG  
           "..that you live in Zurich."  
       b. **..öb (d/du) nach Züri chunnsch**  
           whether you to Zurich come-2SG  
           "..whether you come to Zurich."

Conversely, Hollandic dialects that show complementizer agreement never allow referential pro-drop.

- (90) a. **Komme \*(ze)?** South Hollandic  
           come-PL they  
           "Are they coming?"  
       b. **..ovve \*(ze) komme**  
           whether-PL they come-PL

In short, there seems to be no significant correlation between overt complementizer agreement and referential pro-drop in the Germanic dialects. Certain dialects lacking overt complementizer agreement do have referential pro-drop, others that do have overt complementizer agreement lack referential pro-drop. Pending the analysis of the Frisian type referential pro-drop, it may even be the case that not a single example of referential pro-drop in Germanic is related to complementizer agreement.

### b. V-ellipsis

In Frisian infinitival complement clauses with an 'unrealized future' reading, the infinitive, along with the infinitival marker/preposition *te* 'to', can be left out:<sup>44</sup>

- (91) **Jan is fan doel om nei Ljouwert ta (te gean)** Frisian  
       John is of purpose for to Leeuwarden to to go  
       "John intends to go to Leeuwarden."

This is impossible in Standard Dutch.

<sup>43</sup> (...continued)

which West Flemish pro-drop is licensed by cliticization. Even so, it cannot be maintained that there is a correlation between pro-drop and complementizer agreement.

<sup>44</sup> In (91), the directionality is expressed by the circumposition *nei...ta*, the second element of which is not to be confused with the preposition/infinitival marker *te*.

- Hoekstra and Marácz offer the following explanation for the contrast in (91)–(92). In these constructions, an irrealis feature is present in the embedded INFL. This feature moves to C in Frisian, since Frisian is positively specified for the I-to-C parameter. The I-to-C movement of the irrealis feature turns C into a proper governor, licensing the ellipsis of the infinitival in (91). In Dutch, I-to-C does not take place, hence C is not turned into a proper governor, and ellipsis would result in a violation of the Empty Category Principle.<sup>45</sup>

Many dialects of German do not allow inspection of the presence of V-ellipsis, because of a distinct preference for finite subordinate clauses (Alemannic, Bavarian, Luxemburgish).<sup>46</sup> But the Dutch dialects that show complementizer agreement pattern with Standard Dutch rather than with Frisian with respect to the possibility of V-ellipsis, as far as I have been able to ascertain.

- V-ellipsis, then, appears to be a curious property of Frisian, not of complementizer agreement dialects.

Hoekstra and Marácz (1989) note that Frisian has a phenomenon of complementizer cliticization which Dutch lacks. The phenomenon shows up in embedded questions and relative clauses:

<sup>46</sup> Nevertheless, purpose clauses in Luxemburgish can be expressed in a *fir ze* 'for to' construction (Bruch 1973:103). I have found no examples of the Frisian type V-ellipsis in the literature on Luxemburgish, however.

- (94) a. **Hy freget wa (of) \*(t) jûn komt** Frisian  
 he asks who if that-CL tonight comes  
 "He's asking who's coming tonight."  
 b. **de frou dy \*(t) jûn komt**  
 the woman that that-CL tonight comes  
 "the woman who's coming tonight"

The complementizer clitic is absent in Standard Dutch:

- (95) a. **Hij vraagt wie (of) er vanavond komt** St. Dutch  
 he asks who if there tonight comes  
 "He's asking who's coming tonight."  
 b. **de vrouw die vanavond komt**  
 the woman that tonight comes  
 "the woman who's coming tonight"

The origin of the complementizer clitic is unclear. De Rooij (1965a:110f) notes that it is the functional equivalent of *dat* in (Southern) dialects of Dutch, in constructions like (96):

- (96) **Hij vraagt wie (of) (dat) er vanavond komt**  
 he asks who if that there tonight comes

But as far as I know, this *dat* is optional, unlike the complementizer clitic. A further difference is that *dat* is not allowed in relative clauses, unlike the complementizer clitic:<sup>47</sup>

- (97) **de vrouw die (\*dat) vanavond komt**  
 the woman who that tonight comes  
 "the woman who's coming tonight"

In both Frisian and Dutch, *dat* occurs as the complementizer in non-wh complement clauses. This *dat* cannot be deleted:<sup>48</sup>

<sup>47</sup> The *die dat* combination in relative clauses occurs in the dialect of Ghent, and may be shortened to *die 't* (Overdiep 1937:600). Also, constructions like *de vrouw die wat vanavond komt* appear to be possible in certain dialects. Such constructions are found in Limburgian dialects (Dumoulin and Coumans 1986:113), and Bavarian (Bayer 1984a:215f, Fanselow 1991:314). Possibly the complementizer clitic can be analyzed as a reduced form of *dat* and *wat*, and perhaps also of *asdat*, as De Rooij (1965a:116) suggests.

<sup>48</sup> I abstract away from the possibility that complementizerless embedded clauses are saved by verb movement, as is possible in German, and marginally so in Dutch and Frisian.



- (98) a. **Hy tinkt \*(dat) se jûn komt** Frisian  
           he thinks that she tonight comes  
       b. **Hij denkt \*(dat) ze vanavond komt** Standard Dutch  
           he thinks that she tonight comes

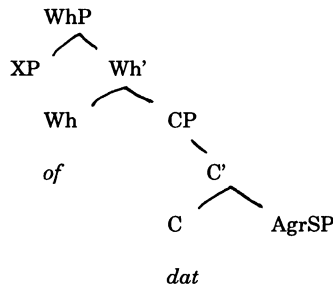
In (98a), *dat* cannot be replaced by the complementizer clitic:

- (99) \* **Hy tinkt 't se jûn komt** Frisian  
           he thinks that-CL she tonight comes

These facts suggest the following analysis.

Let us assume that the Frisian complementizer clitic is a reduced form of *dat*. Let us also assume that the complementizer system is more complex than standardly assumed, following much recent work (Culicover 1991, Hoekstra 1992a, Müller and Sternefeld 1993, Hoekstra and Zwart 1994). Constructions like (96) suggest that the complementizer system consists of (at least) a Wh-phrase, headed by *of*, and a second phrase, headed by *dat*. This is illustrated in (100):

(100)



In Chomsky (1993, 1995) structures are built up in a bottom-up fashion, by successive application of generalized transformations, instead of in a top-down fashion, through a system of phrase structure rules and transformations. It follows from economy of derivation that structures are kept as simple as possible. In other words, the levels CP and WhP are added only if their presence is needed for convergence. Since the embedded clauses in (98) have no Wh-character, the Wh-level does not have to be added in the derivation of these sentences. It follows that in (98), C is the highest node in the complementizer system. In (94), on the other hand, both the WhP and the CP must be present.

We can now make the following generalization: complementizer cliticization in Frisian is possible when Wh is present. The process can be described as movement from C to Wh. This movement is impossible when Wh is absent, which explains (99).

Let us now turn to Hoekstra and Marác's description of complementizer cliticization in terms of I-to-C movement. Hoekstra and Marác offer an explanation for the fact that the complementizer clitic in (94) cannot be deleted (unlike the full complementizer in Dutch). Their suggestion is that in Frisian the complementizer has to remain overt because INFL must be hosted by a lexical item after moving to C.<sup>49</sup>

This analysis predicts that all dialects that have complementizer agreement must have something in C in relative clauses, either a clitic or a full complementizer.

This can easily be disproved. For instance, in West Flemish relative clauses, the complementizer can be left out ( $\emptyset$  indicates a phonetically empty element):

- (101)      **den vent die  $\emptyset$  hier geweest eet**      West Flemish  
               the man    who        here    been has  
               "the man who was here"

West Flemish being a complementizer agreement language, we must assume, in Hoekstra and Marác's analysis, that I-to-C takes place, and therefore that C cannot be emptied. Hoekstra and Marác (1989:80) note that in this case the empty complementizer can be identified by spec-head agreement in CP, which is probably correct. But this leaves unclear why spec-head agreement does not also permit deletion of the complementizer clitic in Frisian in (94b).

In fact, there are many dialects in which complementizer agreement appears even when the complementizer is deleted. In addition to (78), consider the following facts from South Hollandic and Luxemburgish:

- (102) a.      **jonges die-e      werk wille**      South Hollandic  
               guys    who PL    work    want-PL  
               'guys who want a job'  
               b.      **van die rame,    waar-e      ze      de gordijne mee    spanne**  
                       of these frames    where PL    they    the curtains with    draw-PL  
                       "the type of frames which they draw the curtains with"
- (103) a.      **Géi      wuer      s      de      wëlls**      Luxemburgish  
               go        where    2SG    you    want-2SG  
               "Go where you want."  
               b.      **Kenns      de      déi Leit,      déi-en      dat      behaupten?**  
                       know-2SG    you    these people    who PL    that    claim-PL  
                       "Do you know the people who claim that?"

<sup>49</sup> This explanation is not incompatible with the structure of the complementizer system in (100), assuming that I-to-C movement targets the highest head in the complementizer system.

In these constructions, the complementizer agreement appears to be attached to the *wh*-phrase. In view of the fact that complementizer agreement regularly shows up on heads rather than on phrases, it must be assumed that in (102) and (103) there is an empty complementizer hosting the complementizer agreement.<sup>50</sup> If so, one cannot claim that I-to-C movement requires C to be lexically filled, as Hoekstra and Marácz do.

In sum, the complementizer cliticization facts do not allow us to make any generalizations over complementizer agreement dialects.

#### **d. Conclusion**

It seems fair to conclude that the four properties listed by Hoekstra and Marácz (1989) in connection with their I-to-C parameter do not constitute a cluster separating languages with overt complementizer agreement from languages without overt complementizer agreement.

This suggests that the I-to-C parameter as proposed by Hoekstra and Marácz has a very limited scope: it governs the presence or absence of overt complementizer agreement morphology only. This is an unsatisfactory state of affairs. A particular parameter setting generally has a number of tangible syntactic consequences, rather than a single morphological effect.

In chapter VI, I will argue that the I-to-C parameter is real, and that the syntactic consequences of INFL-to-C movement (AgrS-to-C movement) are pervasive. In particular, AgrS-to-C movement plays a key role in the explanation of the verb movement patterns of Dutch, German, Frisian, and the Mainland Scandinavian languages. From this perspective, *overt* complementizer agreement is just a morphological reflex of abstract functional head movement, which happens to be suppressed in the standard varieties of Dutch and German (see Zwart 1993a).

### **3.4 Conclusion**

In this section I have argued that the double agreement phenomenon shows that there are two classes of verb second constructions: inversion constructions and subject initial main clauses. The verb moves to C in inversion constructions, but to the head of a lower functional projection (presumably AgrS) in subject initial main clauses. If so, AgrSP is head initial in the relevant dialects.

<sup>50</sup> The presence of an empty complementizer in (102)-(103) is supported furthermore by the absence of verb movement in these constructions. See section VII.2.1 for more discussion.

I have adopted the hypothesis, going back to Hoekstra and Marácz (1989), that complementizer agreement is a reflex of AgrS-to-C movement. I have argued that there is no evidence that AgrS-to-C movement is restricted to dialects of Germanic that show overt complementizer agreement. Consequently, we may assume that the presence of complementizer agreement in Germanic dialects indicates the existence of AgrS-to-C movement as a more pervasive property of Germanic dialects. This will be the starting point of our analysis of verb movement in Dutch in chapter VI.

## 4 Conclusion

In this section I have argued that the functional projections in Dutch are head initial.

The 'lexical' elements occupying functional head positions (determiners and complementizers) always occupy the leftmost head position in their phrase. This indicates that DP and CP are head initial. The status of the infinitival marker *te* is unclear. We have argued that *te* is most probably not generated in INFL (T). The position of *te*, then, does not allow us to draw conclusions regarding the position of the functional heads in Dutch.

Dutch has a set of weak pronouns, which must be regarded as clitics, occupying functional head positions. Since clitics never appear in sentence final regions, we must conclude that the functional projections hosting the clitics are head initial.

Finally, a number of Continental West Germanic dialects show a phenomenon of complementizer agreement. The complementizer agreement morpheme is affixed to the verb stem in inversion constructions, suggesting that the verb is in C. However, in a number of dialects, the complementizer agreement morphology is absent when the verb is in sentence final position (in embedded clauses) or in the position to the immediate right of the subject (in subject initial main clauses). This suggests that the verb is not in C in subject initial main clauses, indicating that the functional projection hosting the verb (presumably AgrSP) is head initial.

This concludes the argumentation that the functional projections in Dutch are head initial. In the next chapter, I will draw the theoretical framework assumed in this study in a little more detail. This, together with the exposition of the Minimalist Program in chapter I, will serve as the background for the analysis of verb movement in Dutch in chapters VI-VII.

## V

# FEATURE MOVEMENT AND THE RELATION BETWEEN SYNTAX AND MORPHOLOGY

## 1 Introduction

The traditional analysis of the syntax of Dutch was based on the following two hypotheses (cf. section II.2):

1. Dutch is an SOV language.
2. In tensed main clauses, the verb invariably moves to C.

From the preceding chapters, a different picture emerges:

1. Dutch is a head initial language.
2. The finite verb moves to AgrS in subject initial main clauses, and to C in inversion constructions.

The first point has been discussed in chapters III and IV. Space does not permit a fuller treatment of the issue here.

The second point has only been hinted at in the preceding chapters. In section II.4, I argued that the most straightforward implementation of the minimalist approach of Chomsky (1993) involves verb movement to AgrS in subject initial main clauses, and to C in inversion constructions.<sup>1</sup> In section IV.3, I argued that in certain dialects of Dutch, referred to as

<sup>1</sup> As discussed in section II.3, as well as in Travis (1984, 1991), a straightforward implementation of the Government and Binding framework of Chomsky (1981) would also involve verb movement to C in inversion constructions, and to INFL in subject initial main clauses.

*double agreement* dialects, we can actually see that the verb occupies two different positions. In subject initial main clauses, the verb shows verbal agreement morphology, in inversion constructions, the verb shows complementizer agreement morphology.

These considerations suggest the following description of verb movement in Dutch, corresponding to the sentences in (2) (cf. Travis 1984, 1991, Zwart 1991a, 1993b,d):

- |     |    |                                     |             |            |             |     |             |
|-----|----|-------------------------------------|-------------|------------|-------------|-----|-------------|
| (1) | a. | <i>embedded clauses</i>             | C           | Spec,AgrSP | AgrS        | ... | V           |
|     |    |                                     | COMP.       | SUBJECT    |             |     | VERB        |
|     |    |                                     | <b>dat</b>  | <b>Jan</b> |             |     | <b>kust</b> |
|     | b. | <i>subject initial main clauses</i> |             | Spec,AgrSP | AgrS        | ... | V           |
|     |    |                                     |             | SUBJECT    | VERB        |     |             |
|     |    |                                     |             | <b>Jan</b> | <b>kust</b> |     |             |
|     | c. | <i>inversion constructions</i>      | C           | Spec,AgrSP | AgrS        | ... | V           |
|     |    |                                     |             | VERB       | SUBJECT     |     |             |
|     |    |                                     | <b>kust</b> | <b>Jan</b> |             |     |             |
- 
- |     |    |                            |             |               |             |
|-----|----|----------------------------|-------------|---------------|-------------|
| (2) | a. | <b>..dat</b>               | <b>Jan</b>  | <b>Marie</b>  | <b>kust</b> |
|     |    | that                       | John        | Mary          | kisses      |
|     |    | "..that John kisses Mary." |             |               |             |
|     | b. | <b>Jan</b>                 | <b>kust</b> | <b>Marie</b>  |             |
|     |    | John                       | kisses      | Mary          |             |
|     | c. | <b>Kust</b>                | <b>Jan</b>  | <b>Marie?</b> |             |
|     |    | kisses                     | John        | Mary          |             |
|     |    | "Does John kiss Mary?"     |             |               |             |

As noted in section II.4.3, this description of verb movement in Dutch raises the question how to exclude verb movement to AgrS in embedded clauses:

- |     |   |              |            |             |              |
|-----|---|--------------|------------|-------------|--------------|
| (3) | * | <b>..dat</b> | <b>Jan</b> | <b>kust</b> | <b>Marie</b> |
|     |   | that         | John       | kisses      | Mary         |

This question cannot be answered before we know what triggers verb movement in the first place.

In Travis (1991), verb movement is triggered by a requirement that ungoverned empty heads be filled. This follows from the *Empty Category Principle* of Chomsky (1981), which states that empty categories must be (properly) governed.<sup>2</sup> In embedded clauses (1a), the empty head AgrS (*I* in Travis 1984, 1991) is governed by the complementizer. In inversion constructions (1c), AgrS is governed by the verb in C (in fact, the verb has moved through AgrS on its way to C). But in subject initial main clauses (1b), no governor for AgrS is available. Verb movement then occurs as a Last Resort movement. After the verb has moved to AgrS, AgrS is filled, and the Empty Category Principle no longer applies.<sup>3</sup>

In the Minimalist Program, verb movement is not linked to the Empty Category Principle, but to the requirement that the grammatical features of the verb be checked by the corresponding features in a functional head. When verb movement takes place in overt syntax, the V-features of the functional head are said to be *strong*. The absence of verb movement in embedded clauses in Dutch (1a) then suggests that the V-features of AgrS are not strong (Zwart 1993b,d).

If the V-features of AgrS are not strong, the absence of verb movement in embedded clauses is accounted for. Economy conditions (in particular, the principle *Procrastinate*) disfavor overt movement. Therefore, overt movement will not occur when not triggered by strong features.<sup>4</sup> However, this raises a new problem. If the V-features of AgrS are weak, how can the overt verb movement to AgrS in subject initial main clauses (1b) be accounted for?

It appears that we must assume that the N-features of AgrS and AgrO in Dutch are strong. This accounts for the obligatory movement of the subject to Spec,AgrSP (see (1)) and for the obligatory object movement (see section III.2). In Zwart (1993b,d), the strength of the N-features of AgrS was employed to account for the obligatory verb movement to AgrS in subject initial main clauses.

In Zwart (1993d), I proposed that the N-features of AgrS can only be checked when AgrS is lexicalized. There are two ways of lexicalizing AgrS. One way is by moving AgrS to C. I argued that this is characteristic of embedded clauses in Dutch, referring to the complementizer agreement

<sup>2</sup> The following definitions are assumed here.  $\alpha$  governs  $\beta$  iff  $\alpha$  c-commands  $\beta$ , and there is no  $\gamma$  such that  $\alpha$  c-commands  $\gamma$  and  $\gamma$  c-commands  $\beta$ .  $\alpha$  c-commands  $\beta$  iff the first branching node that dominates  $\alpha$  dominates  $\beta$ , and  $\alpha \neq \beta$ . Proper government is a) government by a head, or b) A'-binding by an antecedent.

<sup>3</sup> See Schwartz and Vikner (1989) and Vikner and Schwartz (1996) for discussion of Travis' analysis.

<sup>4</sup> Note that the Procrastination principle does not *exclude* overt movement. 'Procrastinate' expresses that movement is a Last Resort operation. Violation of 'Procrastinate' does not lead to a crashing derivation, otherwise strong features could never be checked in overt syntax.

phenomenon in Dutch dialects as evidence for AgrS-to-C movement. In subject initial main clauses, there is no CP level, and therefore AgrS cannot be lexicalized by moving AgrS to C. Therefore, the only way of lexicalizing AgrS in subject initial main clauses is by moving the verb to AgrS.

The problem with this analysis was that the lexicalization requirement on AgrS is essentially a stipulation. Moreover, it was unclear why there should be an interaction between lexicalization of AgrS and checking of the N-features of AgrS.<sup>5</sup>

In the remainder of this book, I will present a more detailed analysis of verb movement in Dutch in which the requirement that AgrS be lexicalized in subject initial main clauses is no longer stipulated.

The analysis makes crucial use of Chomsky's (1995:262) conception of feature movement (*F-movement*) as the most economical way of checking formal features. I propose that lexical elements are *bundles of features* to be spelled out in a postsyntactic component called *Morphology* (cf. Halle and Marantz 1993, Chomsky 1995:229). Morphology is unable to spell out formal features (*F-features*) that are not part of a morphosyntactic complex containing *lexical-categorical features* (*LC-features*). 'Overt movement' is a combination of F-movement and LC-feature movement (*LC-movement*). All movement for feature checking purposes is F-movement. LC-movement takes place as a Last Resort movement, in order to create a morphosyntactic complex containing both F-features and LC-features. The relevant concepts will be discussed in more detail below.

Consider the consequences for the analysis of verb movement in Dutch. One consequence is that we can now assume that the V-features of AgrS are strong. In all constructions in (1), the F-feature of the verb will move to AgrS.

In embedded clauses (1a), the F-feature will move on to C, creating a morphosyntactic complex containing the F-features of V and the LC-features of the complementizer. This complex is spelled out as a

<sup>5</sup> In Zwart (1993b, section I.3.2), I proposed an account of feature checking that makes the lexicalization requirement superfluous. The proposal essentially involves an ordering of N-feature checking and V-feature checking, such that an N-feature of a functional head  $\alpha$  cannot be checked if  $\alpha$  still carries an unchecked V-feature. In embedded clauses, AgrS-to-C movement removes the unchecked V-feature from the AgrS-position. In subject initial main clauses, verb movement checks and eliminates the unchecked V-feature in AgrS. Both processes have the effect of removing the V-feature from AgrS, so that the N-feature of AgrS can be checked. This account suffers from the same problem as the lexicalization account of Zwart (1993d): the ordering of N-feature checking and V-feature checking is essentially stipulative. Moreover, the account introduces a parameter in addition to the parameter that sets the strength of N-features and V-features, since non-verb second languages must be assumed to lack the ordering requirement on N-feature checking and V-feature checking. (Note: Zwart 1993d was distributed in manuscript form in 1991.)



complementizer by Morphology. No overt verb movement (i.e. no movement of the LC-features of the verb) needs to occur.

In subject initial main clauses (1b), the F-feature cannot move on to C, since the CP level is not projected. If nothing else happens, the F-feature of the verb will be left stranded in AgrS, which now is a morphosyntactic complex without LC-features. LC-movement takes place as a Last Resort operation, creating a morphosyntactic complex that is interpreted by Morphology as a verb.

In inversion constructions, the F-feature will move on to C, only to find itself stranded in a morphosyntactic complex without LC-features again. As in subject initial main clauses, LC-movement takes place, yielding a morphosyntactic complex that is interpreted by Morphology as a verb.

This analysis will be presented in more detail in chapter VI. The present chapter discusses the theoretical concepts underlying the proposed analysis of verb movement.

## 2 Words

A crucial assumption underlying the analysis of verb movement presented here is that lexical items, i.e. the units of sound and meaning that we perceive, are created *after* the syntax. In the syntactic component, what we end up perceiving as words are mere *bundles of features*, morphosyntactic complexes derived via movement and adjunction. These morphosyntactic complexes match a word form that is stored in the Lexicon. The matching of the morphosyntactic complexes with the word forms in the Lexicon takes place in a postsyntactic component, *Morphology*.

This view on the relation between morphology and syntax derives from the framework of *Distributed Morphology* (Halle and Marantz 1993). In this section, I will discuss the concept of words as bundles of features and the question which features play a role in the syntactic derivation. Section 2.1 contains a brief sketch of the history of the idea of postsyntactic morphology. In section 2.2, the nature of lexical insertion in a morphology-after-syntax approach is discussed.

### 2.1 From Weak Lexicalism to Postlexicalism

The term *lexicalism* refers to a view on the relation between morphology and syntax in which processes of derivational morphology are not syntactic but lexical. Lexical processes take place in a component called *Morphology*, which is a proper subpart of the Lexicon. Morphology creates

lexical items which are treated by the rules of the syntactic component as atoms.

*Weak lexicalism* makes a distinction between derivational morphology and inflectional morphology (Chomsky 1970). According to the weak lexicalist approach, inflectional morphemes can be manipulated by syntactic rules like movement and adjunction. Thus, in Chomsky (1981), the morphemes expressing tense and agreement in English are generated in a functional head INFL, and are lowered and adjoined to the verb in V.

*Strong lexicalism* makes no (morphological) distinction between derivation and inflection (Lieber 1980). Both derivation and inflection are lexical, and syntactic rules cannot manipulate inflectional affixes. As we have seen, the strong lexicalist view is adopted in Chomsky (1993).

Importantly, strong lexicalism is an approach to morphology rather than to syntax. For example, the syntactic hypothesis that inflectional features are associated with functional heads is not significantly affected by the choice between weak and strong lexicalism. Thus, in both approaches the inflectional features are represented outside the lexical domain, in functional heads.<sup>6</sup> The only difference is that in the weak lexicalist approach, the inflectional features are carried by inflectional morphemes, while in the strong lexicalist approach the inflectional features stand alone.<sup>7</sup>

Weak and strong lexicalism differ from what I propose to call *postlexicalism* in assuming that the syntax manipulates lexical items generated by (the morphological component in) the Lexicon. A lexical item is taken to be a particular combination of sound features, meaning features, and formal features. In the minimalist approach of Chomsky (1993), the formal features are checked and eliminated during the syntactic derivation, and the sound and meaning features are relevant for interpretation at PF and LF, respectively.

In *postlexicalism*, introduced by Halle and Marantz (1993), the sound features are added after the syntactic derivation has been completed.<sup>8</sup> In

<sup>6</sup> The idea that functional features should be represented separately goes back to Chomsky (1957), but finds its roots essentially in the (Post-)Bloomfieldian approach to morphology.

<sup>7</sup> As noted in Zwart and Hoekstra (1989), the intuitive distinction between inflection and derivation is not lost in the strong lexicalist approach, precisely because inflectional morphemes are defined as morphemes that are associated with (features represented in) functional heads. Thus, the distinction between inflection and derivation is made in syntactic terms, not in morphological terms.

<sup>8</sup> Halle and Marantz (1993) refer to their postlexicalist theory of morphology as *Distributed Morphology*. I have chosen to employ a neutral term to avoid the problem that one term refers to a morphological framework as well as to a particular implementation of that framework. I will use the term *Distributed Morphology* to refer to the implementation of the

(continued...)

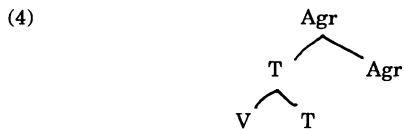
the syntax, both stems and morphemes are mere bundles of formal features and features relating to meaning. Simplifying somewhat, we can say that lexical insertion takes place after the syntax.

Again, postlexicalism is an approach to morphology rather than to syntax. The syntactic theory, involving a distinction between lexical and functional heads, and employing the structure building processes Merge and Move (binary and singular operations of Generalized Transformation), is not necessarily affected by the choice between lexicalism and postlexicalism.

Nevertheless, the postlexicalist approach to morphology seems highly compatible with the minimalist approach to syntax. I will briefly sketch a motivation of the postlexicalist approach, drawing arguments from both syntax and morphology.

The first argument in support of morphology after syntax is directed to weak lexicalism in particular. The argument rests on the observation that the relation between the morphosyntactic complexes created in the syntax (via head movement and adjunction) and the morphological realizations of these morphosyntactic complexes is not always transparent.

Suppose that inflected verbs are created in the following way. A verb stem is generated in V and adjoined to the tense and agreement affixes in T and Agr in the course of the syntactic derivation. The result is a morphosyntactic complex that may look like (4):



In (4), V is considered to contain a verb stem, T a tense affix, and Agr an agreement affix. (4) is the result of V adjoining to T, and the V+T complex adjoining to Agr. In a language like Dutch, the structure in (4) matches the morphological structure of inflected verbs:

(5)

| <i>stem</i> | <i>tense</i> | <i>agreement</i>    |               |
|-------------|--------------|---------------------|---------------|
| <b>kus</b>  | <b>-t</b>    | <b>-en</b>          | <b>kusten</b> |
| kiss        | PAST         | PLURAL(we/you/they) | kissed        |

<sup>8</sup> (...continued)

postlexicalist framework in Halle and Marantz (1993), and *postlexicalism* to refer to the more general morphological framework in which morphology takes place after syntax. This is not intended to deny that the postlexicalist approach adopted here is entirely due to Halle and Marantz (1993) and related work cited there.

This transparent relation between the morphological structure of the verb and the syntactic structure of morphosyntactic objects is found in many languages, and expressed in Baker's (1985) *Mirror Principle*:

- (6) *Mirror Principle*  
The affixes closest to the verb stem correspond to the functional heads closest to V.

However, as Halle and Marantz (1993) argue, the relation between the morphosyntactic objects resulting from head movement and adjunction (like (4)) and the morphological structure of inflected forms (like (5)) is not always transparent.

By way of illustration, consider the full present and past tense paradigms of the Dutch verb *kussen* 'kiss' (cf. II.1.1.1):<sup>9</sup>

- (7) *Present tense*
- |     |      |     |        |
|-----|------|-----|--------|
| 1SG | kus  | 1PL | kussen |
| 2SG | kust | 2PL | kussen |
| 3SG | kust | 3PL | kussen |

- (8) *Past tense*
- |     |       |     |        |
|-----|-------|-----|--------|
| 1SG | kuste | 1PL | kusten |
| 2SG | kuste | 2PL | kusten |
| 3SG | kuste | 3PL | kusten |

At first sight it looks like the dental element following the stem in (8) is the past tense morpheme. If so, we may assume that there is a  $\emptyset$  present tense morpheme to the immediate right of the stem in (7):

- (9)
- | <i>stem</i> | <i>tense</i>                        | <i>agreement</i> |
|-------------|-------------------------------------|------------------|
| <b>kus</b>  | <b>{<math>\emptyset</math>, -t}</b> | <b>-en</b>       |
| kiss        | PRES, PAST                          | PL               |

However, the agreement affixes cannot be as easily isolated. In the past tense, there appear to be two agreement affixes, *-e* for the singular and *-en* for the plural. The plural affix *-en* returns in the present tense paradigm, but the singular affixes do not. Instead, two new affixes appear,  $\emptyset$  in the first person and *-t* in the second and third person.

Thus, it appears that the selection of the person affixes is dependent on the specification for tense. This is unexpected if affixes are inserted in

<sup>9</sup> I ignore here the 2SG present tense inversion form *kus*. In many dialects, the final *-n* is not present. The paradigms in the text reflect Standard Dutch orthography.

functional head positions, as in the weak lexicalist approach. It seems that the tense and agreement nodes are *fused*, and that the tense-agreement combination is expressed by a set of fused morphemes in the singular:

- |      |               |    |         |     |
|------|---------------|----|---------|-----|
| (10) | 1SG-PRESENT   | -Ø | SG-PAST | -te |
|      | 2/3SG-PRESENT | -t |         |     |

On the other hand, the transparent structure of the plural paradigms suggests that the tense and agreement nodes have *not* fused, and that tense and agreement are expressed by clearly identifiable, separate morphemes.<sup>10</sup>

Several other cases in which the relation between the morphosyntactic objects created by verb movement and the morphological structure of the inflected verbs is not transparent are discussed in Halle and Marantz (1993). Halle and Marantz propose several operations which are typical of morphology and which operate on the morphosyntactic objects created in the course of the syntactic derivation. One such process is fusion, in which two functional nodes correspond to a single morpheme. Another is *fission*, in which the position of a morpheme in the inflected verb does not correspond to a functional head position in the morphosyntactic object resulting from verb movement. I refer to Halle and Marantz (1993) for discussion of these processes.

Importantly, these processes are purely morphological processes, which must be assumed to take place in the morphological component, wherever it is located.<sup>11</sup>

Note that the mismatch between morphosyntactic objects like (4) and inflected forms like (5) is not problematic for the strong lexicalist approach to morphology. In a strong lexicalist approach, processes like fusion and fission may be assumed to take place prior to lexical insertion of inflected forms in V. In the syntax, the inflected forms move and adjoin to T and Agr, yielding morphosyntactic objects like (4), and checking the features expressed by the (fused and fissioned) inflectional morphemes along the way.

A second argument for assuming that morphology is postsyntactic is directed more specifically to the strong lexicalist approach. Morphological

<sup>10</sup> See Campbell (1991) for an analysis of a similar contrast between past and present tense in German.

<sup>11</sup> Halle and Marantz (1993:116) describe fusion as a process operating on syntactic trees. The example of Dutch discussed in the text suggests that fusion cannot be regarded as a general syntactic property of the grammar of Dutch. In that case, we would not expect fusion to take place only when agreement is singular. I prefer to regard fusion as a morphological process that informs the structure of morphological paradigms and leaves syntactic head adjunction structures unaffected.

paradigms are described most economically by designating certain forms as *underspecified* (cf. Kiparsky 1973, Janda and Sandoval 1984). Consider the singular present tense forms in (7), repeated here for convenience:

- (11)
- |     |             |
|-----|-------------|
| 1SG | <i>kus</i>  |
| 2SG | <i>kust</i> |
| 3SG | <i>kust</i> |

We can describe this paradigm by specifying the person and number value for each form, but this would yield one form (*kust*) with two sets of feature values (2SG and 3SG). A more economical description would give only two forms, one of which (*kust*) is the underspecified singular form, while the other (*kus*) is a singular form specified for first person:

- (12)
- |         |             |
|---------|-------------|
| [+SG,1] | <i>kus</i>  |
| [+SG]   | <i>kust</i> |

In approaches involving underspecification, an important principle is that the more specified form is always selected over the underspecified form (see Halle and Marantz 1993:120 and references cited there). This principle accounts for the ungrammaticality of (13):

- (13)
- |             |                    |
|-------------|--------------------|
| * <i>Ik</i> | <b><i>kust</i></b> |
| I           | kiss-SG            |

In (13), the verb form has the required [+SG] specification. The only reason (13) is nevertheless unacceptable is that the Dutch singular present tense paradigm has a more specified [+SG,1] form *kus*.

This principle of selecting the most specified form is hard to express within the strong lexicalist approach. Suppose the derivation starts out with a fully inflected form *kust* in the V-position. As we know from (12), *kust* is specified as [+SG]. In the course of the derivation, the verb *kust* will adjoin to T and AgrS to check its features (see (4)). AgrS mediates in the agreement relation between the first person singular subject *ik* and the verb *kust*. Both the subject and the verb are [+SG], so that these features are found to match. In addition, the subject is specified for first person. But since the verb is unspecified for person, no feature clash occurs. To be sure, there is a form in the Lexicon that is specifically marked for first person, *kus*, but it is unclear what goes wrong if instead of the more specified form *kus* the underspecified form *kust* is selected. In other words, how do we know, at the moment of feature checking, that the verb form that is offered is not the most specified form in the paradigm?

In the postlexicalist approach, this problem does not occur, as the principle of selecting the most specified form applies after the syntax. The syntactic derivation yields a morphosyntactic object like (4), carrying the

features [+SG,1] (among others). In the morphological component, a form is selected from the relevant paradigm that yields the closest match to these features. Given the paradigm in (12), that form can only be *kus*.

A third argument for assuming that morphology is postsyntactic has to do with economy of representation. In lexicalist approaches, the phonological features are present throughout the syntactic derivation. In the postlexicalist approach, the phonological features are added after the syntactic derivation. It is generally accepted that (segmental) phonological features are not relevant to the syntactic derivation (cf. Chomsky 1995:230).<sup>12</sup> There seems to be no empirical reason to assume that phonological features are present before the Spell-Out point. By economy of representation, then, we may assume that phonological features are absent before Spell-Out.

A similar argument involves the principle of Full Interpretation. Segmental phonological features are not interpreted at LF. In Chomsky 1995:229 it is said that Spell-Out “strips away” from a given structure those features that are relevant only to PF. This amounts to stipulating that the phonological features do not cause a violation of Full Interpretation at LF. If we assume that the phonological features are only added to morphosyntactic objects in the PF component (i.e., in Morphology), no stipulation regarding Full Interpretation at LF is needed.

A fifth argument for assuming that morphological interpretation of morphosyntactic objects is a postsyntactic process has to do with the nature of the Lexicon. The Lexicon is traditionally considered to be the repository of everything that is unpredictable in a language (Bloomfield 1933:274). Since the phonological features of words are arbitrary, these are the lexical features *par excellence*. However, the Lexicon is also considered to be the interface between the computational system and the conceptual system (cf. Koster 1988:9). It is not clear that phonological features are relevant for the translation of concepts into structures (e.g. via the Uniform Theta-role Assignment Hypothesis of Baker 1988 or Canonical Structural Realization mechanisms of Chomsky 1986a). Inasmuch as these concepts, and the processes translating them into syntactic structures, are universal, the Lexicon also harbors a large language independent component. For example, the concept of kissing and the categorial status of the verb/noun *kiss* are relevant for the syntactic behavior and the semantic interpretation of the syntactic object perceived

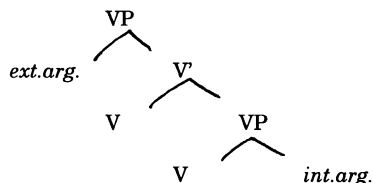
<sup>12</sup> Prosodic features seem relevant for interpretation (Diesing 1992a, Zwart 1995b). However, we may think of the relation between prosody and interpretation as being mediated by a feature present on lexical items or associated with domains in the sentence structure that has effects both at PF and at LF (cf. Kayne 1994:112). For more general discussion of the relation between syntax and phonology, see Inkelas and Zec (1990).

as *kiss*. These are lexical properties that are considerably less arbitrary, presumably, than the phonological features of *kiss* commonly associated with the Lexicon.<sup>13</sup>

This dual function of the Lexicon (universal conceptual-semantic and syntactic features vs. arbitrary phonological features) is not transparent in the lexicalist approach to morphology. In the postlexicalist approach, the universal part of the Lexicon feeds the syntactic derivation, whereas the language specific part is only accessed after the Spell-Out point.

A sixth argument for assuming that morphology is postsyntactic concerns the status of lexical items in the syntax. In the lexicalist approach to morphology, the relation between lexical items and terminal (lexical) nodes is considered to be one-to-one. In recent years, independently of the emergence of what I call the postlexicalist approach to morphology, the one-to-one character of the relation between lexical items and terminal nodes has been questioned (Baker 1988, Larson 1988, Hale and Keyser 1993, Levin and Rappaport-Hovav 1995). In this research, lexical items are decomposed into two or more lexical heads, which are united in the syntactic component via incorporation processes (see Hale and Keyser 1993 for extensive discussion). This lexical decomposition approach is also adopted in Chomsky 1995:331,352, where transitive verbs are analyzed as involving two verbal heads:

(14)



In (14), the higher verb is considered to be a light verb, introducing the external argument. Here, a simple transitive verb corresponds to two lexical heads. For synthetic causative verbs, applicative verbs, and verbs incorporating prepositions and arguments, a lexical decomposition analysis appears to be well-supported (Marantz 1984, Baker 1988, Hale and Keyser 1993).

Hale and Keyser (1993:94f) discuss various possible implementations of a lexical decomposition approach. A conservative view would hold that

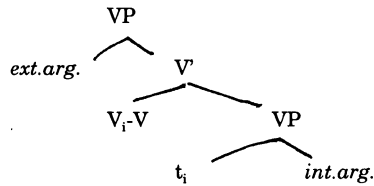
<sup>13</sup> See also Chomsky 1995:229-230 on the need to “distinguish two types of lexical features: those that receive an interpretation only at the A-P interface (phonological) and those that receive an interpretation only at the C-I interface.” Chomsky assumes that “these sets are disjoint, given the very special properties of the phonological component and its PF output.” The postlexicalist approach assigns these two disjoint sets of lexical features two different positions in relation to the syntactic derivation.



the Lexicon (considered as a component feeding the syntactic derivation) contains complex phrases like (14) rather than simple lexical heads. But since the relations between the heads in lexical decomposition constructions like (14) are well-defined in syntactic terms (involving syntactic conditions on head movement), Hale and Keyser (1993:97) conclude that structures like (14) are “simply syntactic structures, expressing such normal syntactic relations like ‘head’, ‘specifier’, and ‘complement’. And they are present in the syntactic representations over which normal syntactic processes and principles are defined.”

If this view on the structure of lexical items is correct, the syntactic derivation is not fed by simplex lexical items (like *kiss*), but by the elements appearing in the head positions in (14): a (verbal) root and an empty light verb introducing an external argument. Head movement and incorporation yield a morphosyntactic object in which one V is adjoined to the other (e.g., (15)):

(15)



It is the head adjunction structure  $V_i-V$  in (15) that is translated into one word in English, e.g. *kiss*.<sup>14</sup> This again suggests that the Lexicon should be split into a universal part, containing the building blocks for structures like (14), and a postsyntactic language specific part, offering a phonological translation for the head adjunction structure in (15) created in the syntactic derivation.

These arguments suggest a postlexicalist approach to the morphology-syntax relation. Summarizing, the postlexicalist approach assumes that morphemes are bundles of features (semantic, syntactic, and phonological features). The semantic and syntactic features are present throughout the syntactic derivation, the phonological features are added after the Spell-Out point, in a PF component Morphology. In Morphology, forms are selected corresponding to the feature bundles that form the output of the syntactic derivation (up to the Spell-Out point). The selection is made according to the principle that the most specified form has precedence over underspecified forms.

In the next section, I will briefly address the question how lexical insertion takes place in a postlexicalist approach.

<sup>14</sup> The exact analysis of the structure of *kiss* is immaterial here, of course.

## 2.2 Lexical Insertion

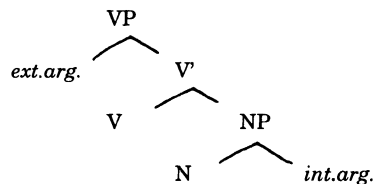
Chomsky (1995:225f) describes a syntactic derivation as a procedure that maps an array of lexical items (called *numeration*) into a pair of interface representations (PF and LF). The items of the numeration are combined by the operations Merge and Move (Generalized Transformations), yielding morphosyntactic objects to be interpreted at the interfaces. What are the features of these lexical items?

Chomsky (1995:230) assumes that lexical items are collections of three sets of features: phonological features, semantic features, and formal (syntactic) features. In the postlexicalist approach, the lexical items in the numeration are collections of only two sets of features: semantic features and formal (syntactic) features.

The semantic features identify elements from the universal Lexicon (see section 2.1). They may be combined with semantic features of other lexical items in the course of the syntactic derivation. This yields complex (incorporation) structures that are interpreted in the (postsyntactic) Morphology component as words from the language particular Lexicon.

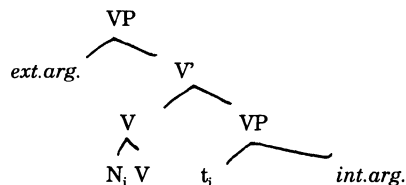
For example, suppose that the verb *kiss* is really a combination of a nominal root *kiss* and a light verb introducing the external argument (i.e., introducing transitivity, cf. (14)):

(16)



Both the nominal element *kiss* and the light verb are part of the universal Lexicon. More exactly, the semantic features of N and V in (16) identify elements from the universal Lexicon. After head incorporation, a morphosyntactic object results consisting of a nominal element adjoined to a light verb:

(17)



The N-V adjunction structure in (17) is interpreted as the English word *kiss*.<sup>15</sup>

Chomsky (1995:230) takes the categorial features [nominal] and [verbal] to be formal features. Although nothing hinges on the matter, I will take categorial features to be (derivable from) semantic features. For instance, since all artifacts are represented by nouns, we need not stipulate that the lexical item with the semantic features of *airplane*, including [artifact], has a formal feature [nominal].<sup>16</sup>

A second reason for not including categorial features in the set of formal features is that categorial features do not appear to enter into feature checking relations. Here I deviate from Chomsky (1993:31, 1995:282), who reformulates the Extended Projection Principle (EPP) of Chomsky (1981:26), requiring the obligatory presence of a surface subject in certain languages, in terms of a categorial feature checking requirement (e.g., there must be a DP/NP in Spec,IP). The obligatory presence of surface subjects follows from the presence of a strong D-feature (or N-feature) on a functional head, to be checked by a phrase carrying the categorial feature [nominal].

I will not go into the word order effects ascribed to the EPP in Chomsky (1995). Here, I only wish to note that it is not clear that reference to categorial features is relevant in the reformulation of the EPP in terms of feature checking. It would be if strong D-features (N-features) are involved in licensing DPs (NPs) *qua* DPs (NPs), or in licensing functional heads as requiring a DP (NP) in their specifier position. But in most cases, perhaps all, D-features (N-features) are more particularly involved in checking other formal features of the relevant DPs (NPs), such as Case and agreement features. Consequently, it is not clear whether categorial features are ever relevant for feature checking operations.<sup>17</sup>

<sup>15</sup> Again, this is just an example illustrating a syntactic approach to lexical decomposition. The exact analysis of English verbs like *kiss* is a subject for research not undertaken here.

<sup>16</sup> This derivation of categorial features from semantic features is reminiscent of Chomsky's (1986a:87) concept of categories being canonical structural realizations of semantic arguments.

<sup>17</sup> As Chomsky (1995:278) notes, the categorial features of a target never enter into checking relations. Chomsky (1995:282) explicitly divorces the EPP from Case checking. A crucial assumption here is that T, not Agr, assigns (checks) Case: nominative Case if T is [+tense], null Case in control infinitives (Chomsky and Lasnik 1993), no Case in raising infinitives. The dichotomy between the two [-tense] contexts is strange. If we assume that Case is assigned (checked) by Agr, the problem disappears. Control infinitives have an independent set of Agreement projections, whereas raising infinitives do not. Hence, there is a subject licensing position in control infinitives, but not in raising infinitives. The distinction between the EPP and Case licensing is also employed in the analysis of expletive constructions (Chomsky 1995:273,286f). Chomsky proposes that in constructions like *there seems to be a* (continued...)

I assume, then, that categorial features are grouped together with semantic features, and I will refer to the complex as *lexical-categorial features (LC-features)*.

Formal (syntactic) features are those features that are involved in feature checking operations: tense, agreement, Case, *wh*, etc. Like LC-features, they are part of the bundle of features making up lexical items as they are selected from the numeration and merged with other lexical items.

Chomsky (1995:231) makes a distinction between *intrinsic* and *optional* formal features. Intrinsic features are inherently part of the feature bundles making up lexical items. Semantic features and categorial features are inherent. So are the person features in [-human] lexical items (3d person) and pronouns. With verbs, the Case assigning capacity is an intrinsic formal feature.<sup>18</sup>

Optional features are added as the lexical item enters the numeration. Number and Case features of nouns are optional features. With verbs, the tense and agreement features are optional.

It seems to me that *optional* is an unfortunate term, suggesting optional presence. In fact, the presence of the 'optional' features is no more optional than with intrinsic features. The difference with intrinsic features is that the 'optional' features have a variable value.<sup>19</sup> I will therefore refer to Chomsky's optional features as *variable* features. The value of intrinsic features is fixed, the value of variable features is determined arbitrarily

<sup>17</sup> (...continued)

*man in the room*, where the associate *a man* agrees with the raising verb, the associate raises to AgrS in covert syntax (by feature movement, see below). Therefore, the expletive *there* must lack  $\phi$ -features, or else the trigger for raising of the associate (the  $\phi$ -features in AgrS) would have been checked and eliminated by *there*. Chomsky (1995:287) also argues that *there* must lack Case. If not, constructions like *there seems that a man is in the room* should be grammatical: in the matrix clause, *there* would check the Case features, and the associate could check the  $\phi$ -features (after covert movement). However, this argument ignores possible locality conditions on covert movement (feature movement). Also, the argument is based on the questionable assumption that *there* is a pure expletive, rather than a predicate (as argued by Hoekstra and Mulder 1990, Moro 1993, Zwart 1992b). If *there* is a predicate, it must be generated in the complement domain of *seem*. In *there seems that a man is in the room*, this is only possible if *that a man is in the room* is the subject of a Small Clause [*that a man is in the room*]/[*there*]]. Not only would this analysis be unsupported, but we would also expect Condition on Extraction Domain effects on the associate raising to AgrS, explaining the ungrammaticality of *there seems that a man is in the room* independently.

<sup>18</sup> Notice that this assumes that objective Case is checked by the verb, rather than by an agreement head.

<sup>19</sup> Thus, "[t]he fact that these features are present is determined (we assume) by UG, but the choice among them is not." (Chomsky 1995:237).

as the lexical item enters the numeration. In each case, the feature value enters into feature checking relations.<sup>20</sup>

## 2.3 Conclusion

In this section I have made the following assumptions.

1. Lexical items appear in the syntactic derivation as bundles of semantic and formal (syntactic) features (LC-features and F-features).
2. Formal features can be intrinsic or variable.
3. The operations Merge and Move create morphosyntactic (head adjunction) complexes in the position of terminal nodes, which are interpreted after the Spell-Out point (at PF) by Morphology.

In the next section, I will briefly discuss the assumptions made here regarding phrase structure, movement, and feature interpretability at the interface representations.

## 3 Phrase Structure, Movement and Feature Checking

In Chomsky (1995), the Minimalist Program as presented in Chomsky (1993) (cf. section I.2) is further articulated on a number of points. The refinements have to do with:

1. Phrase Structure
  - a. the properties of X-bar theory are derived rather than stipulated in rewrite rules.
  - b. the notation of X-bar structures is simplified, consisting of pairs of sisters (terms) and a *label* specifying the feature composition of the pair.

<sup>20</sup> Choice of terminology is not innocuous here, it seems. Thus, Chomsky (1995:240) argues that it is not clear that the lexicon contains functional categories like agreement, the presence of which is “part of the process of forming a numeration from the lexicon.” The situation is much clearer when agreement features are inherently part of the feature bundles making up lexical items, with a only a *value* to be assigned as the lexical item enters the numeration.

## 2. Movement

- a. a distinction is made between overt and covert movement; overt movement moves the complete bundle of features making up a lexical item, covert movement moves the formal features only.
- b. movement is triggered by a (functional) head that needs to have its features checked (*Attract  $\alpha$* ).

## 3. Interpretability

- a. a distinction is made between features that are, and features that are not, interpretable at LF.
- b. feature checking does not automatically imply elimination of features.

In this section, we will introduce these aspects of the Minimalist Program, which will be relevant to the analysis of verb movement presented in this book.

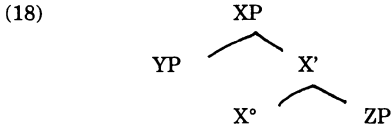
### 3.1 Phrase Structure

#### 3.1.1 *Deriving X-bar Theory*

As we have seen in section I.2.1, Chomsky 1993 differs from previous treatments in generative grammar, in that the rules or mechanisms deriving phrase structures are considered to operate in a bottom-up fashion. The operations Merge and Move (Generalized Transformations) create phrase structure by combining two phrase markers. This would seem to make the traditional system of rewrite rules superfluous.

However, Chomsky (1993:6) maintains X-bar Theory as an independent set of principles that the operations Merge and Move are subject to.<sup>21</sup> Thus, Merge and Move yield structures like (18), in conformity with the traditional rewrite rules of X-bar Theory (see section I.2.1 and Chomsky 1986b:3):

<sup>21</sup> "The computational system takes representations of a given form and modifies them. Accordingly, UG must provide means to present an array of items from the lexicon in a form accessible to the computational system. We may take this form to be some version of X-bar theory. The concepts of X-bar theory are therefore fundamental. In a minimalist theory, the crucial properties and relations will be stated in the simple and elementary terms of X-bar theory" (Chomsky 1993:6).



The independent status of X-bar Theory is no longer taken for granted in Chomsky (1995). Instead, Chomsky sets out to “subject these assumptions [of X-bar Theory, CJWZ] to critical analysis, asking what the theory of phrase structure should look like and what the consequences are for the theory of movement” (1995:242).

The simplest piece of phrase structure is a single lexical item (a bundle of features, as we have assumed). Merge applies to two such phrase structure objects  $\alpha$  and  $\beta$ , yielding a new object,  $K$ .  $K$  itself has two types of properties: it is itself a bundle of features, and it has a phrase structure level specification. The feature specification of  $K$  is derived from a theory of projection. The phrase structure level specification of  $K$  is derived from a theory of phrase structure.

Chomsky (1995:243) proposes the following notation for  $K$ :

(19)  $K = \{ \gamma \{ \alpha, \beta \} \}$

where  $\gamma$  is the *label* of  $K$ , specifying  $K$ 's feature composition.

Chomsky (1995:243f, 256f) argues that the features of  $K$  are projected from the head of  $K$ . The nonhead (the adjunct) does not project its features. We will return to this issue in section 3.1.3.

Chomsky (1995:242) proposes that the phrase structure level of  $K$  is not an inherent property, but a relational property. Following Muysken (1982), Chomsky defines phrase structure level in terms of two features, [projection] and [maximal].

These two features yield the following combinatorial possibilities:

(20)

|    |                        |     |
|----|------------------------|-----|
| a. | [+maximal,+projection] | XP  |
| b. | [+maximal,-projection] | [?] |
| c. | [-maximal,+projection] | X'  |
| d. | [-maximal,-projection] | X°  |

As can be seen, these combinatorial possibilities yield the three conventional X-bar levels. Importantly, however, the first node dominating a head does not necessarily have to be  $X'$  in this system.  $X^\circ$  projects an  $X'$  only if  $X'$  is not the maximal projection of  $X^\circ$  (i.e., if  $X'$  is dominated by another projection of  $X^\circ$ ). If the immediate projection of  $X^\circ$  is the highest node in the projection line of  $X^\circ$ , its features are [+maximal,+projection], corresponding to XP. This is a major difference with the traditional X-bar

Theory, in which XP is always rewritten as X' (and something else), never as X° (and something else).

The relational definition of phrase structure also allows for lexical items to be maximal without projecting (cf. (20b)). In other words, a lexical item can be a maximal projection and a head at the same time, if it has no complement and no specifier. This could not be expressed in the traditional X-bar Theory, which enforced vacuous projections in such cases.

### 3.1.2 *Possible Phrase Structures*

Chomsky (1995:243) assumes that the properties of K, the product of Merge, are defined derivationally, not representationally (see Epstein 1995 for important discussion). Thus, the properties of K are determined at the point in the derivation at which K is created (by Merge), not later, e.g. on the basis of K's position in the representation resulting from further operations of Merge. This makes it difficult to maintain the traditional distinction between X' and XP, as Chomsky (1995:242) does (see (20)).

Suppose  $\alpha$  is merged with  $\beta$ , yielding K. Suppose  $\alpha$  is the head of K and  $\beta$  the adjoined category. Since the features of K derive from the head, K is a projection of  $\alpha$ . At this point in the derivation, the phrase structure level of K is characterized by the features [+maximal] and [+projection] (i.e.,  $K = XP$ ).

Now if the properties of K are defined derivationally, further merger of K with another phrase marker  $\delta$  will not affect the phrase structure level status of K. Therefore, K will always remain [+maximal].

This is at variance with the representational definition of phrase structure level (which Chomsky seems to adhere to here), according to which further merger of K with  $\delta$  will change the status of K (if K is the head) into [-maximal], [+projection] (i.e., X').

Chomsky (1995:242) defends the distinction between XP and X' on the assumption that intermediate projections are not relevant to LF interpretation. At the LF interface, only heads and maximal projections are assumed to be visible. Thus, representationally speaking, intermediate projections do not exist. However, if intermediate projections are invisible at the interface, there is no reason to assume that they are not [+maximal].

Clearly, the [maximal] feature is superfluous in the description of the derivation if the only distinction between intermediate projections and maximal projections is that the former are invisible at the interface. Since visibility at the interface is an independent, representational property, we can dispense with the feature [maximal], leaving only the feature [projection] to distinguish phrase structure levels:



- (21)
- |               |    |
|---------------|----|
| [+projection] | XP |
| [-projection] | X° |

A 'two level' X-bar structure has been proposed many times in the literature (Stuurman 1985, Hellan 1991, E. Hoekstra 1991, Zwart 1992a, Kayne 1994). (21) reflects what seems to be a fundamental property of phrase structure, namely that there is a distinction between heads and phrases.

In the remainder of this book, I will assume only the two X-bar levels specified in (21). One of the consequences is that K, resulting from merging two heads  $\alpha$  and  $\beta$ , cannot be defined as a projection of either  $\alpha$  or  $\beta$  (see 3.1.3).

Consider now the question of possible phrase structures.<sup>22</sup> It seems that the core cases are covered by the following law (Zwart 1993b:25):

- (22)  $\alpha^m + \beta^n = \alpha^n$

where  $\alpha, \beta$  are categorial features and  $m, n = [\pm\text{projection}]$

Thus, (22) specifies that a combination of a head and a phrase yields a phrase with the categorial features of the head (23), that a combination of a head with a head yields a head with the categorial features of one of the two heads (24), and that a combination of a phrase with a phrase yields a phrase with the categorial features of one of the two phrases (25):

- (23)
- $$\begin{array}{c} \text{XP} \\ \swarrow \quad \searrow \\ \text{X}^\circ \quad \text{YP} \end{array}$$

- (24)
- $$\begin{array}{c} \text{X}^\circ \\ \swarrow \quad \searrow \\ \text{Y}^\circ \quad \text{X}^\circ \end{array}$$

- (25)
- $$\begin{array}{c} \text{XP} \\ \swarrow \quad \searrow \\ \text{YP} \quad \text{XP} \end{array}$$

In (23)-(25), order is taken to be irrelevant. Notice that *head* is used in two different senses here, creating potential confusion. First, a head is a syntactic object with the feature [-projection] (an X°). Second, a head is an

<sup>22</sup> This question is discussed by Chomsky (1995:318) in the context of the structure-preserving hypothesis, interpreted as a uniformity condition on adjunction. I deviate here from the discussion by Chomsky.

object projecting features. In (22),  $\alpha$  is always the head in the sense of projecting (categorical) features. Hence, (22) states that the phrase level features [ $\pm$ projection] are always dependent on the adjoined category (whether it be a complement, as in (23), or a specifier/adjunct, as in (24), (25)).

(22) predicts one phrase structure that does not seem to exist:



In (26), a head  $Y^\circ$  is adjoined to a phrase  $XP$ . It seems that this structure must be excluded.

Chomsky (1995:319) suggests that objects like (26) are not interpretable by Morphology (taken to be postsyntactic here, as we have also assumed above), proposing the following principle:

(27) Morphology deals only with  $X^\circ$  categories and their features.

It is not entirely clear that this principle suffices to ban (26), since it does not follow that Morphology cannot interpret  $XP$  in (26) as part of an  $X^\circ$ .<sup>23</sup>

(26) can be excluded if we add the following restriction to (22):

(28) If  $n = [-\text{projection}]$ ,  $m \neq [+ \text{projection}]$

How can (28) be derived?

Suppose that (26) is a complementation structure. Then  $XP$  must be the complement, and  $Y^\circ$  must be the head. If  $Y^\circ$  is the head, it projects its categorial features, excluding (26).

Suppose that (26) is an adjunction structure, with  $XP$  the 'head'. Then  $Y^\circ$  must have been moved to  $XP$ . In that case,  $Y^\circ$  must check a feature of the head of  $XP$ ,  $X^\circ$ . (26) is excluded if  $Y^\circ$  is not in the checking domain of  $X^\circ$ . Let us simply propose here that this is the case, i.e. that a feature checking relation between  $\alpha$  and  $\beta$  can only exist when  $\alpha$  adjoins to  $\beta$  (as in (24)) (see section 3.1.4 for the definition of checking domain).<sup>24</sup>

If this is correct, (26) is ruled out independently, and (22) can be maintained as a rule describing possible phrase structures.

<sup>23</sup> As Ron van Zonneveld points out to me, this is what Botha (1983) argues for on the basis of facts from Afrikaans. See also Spencer (1991:321).

<sup>24</sup> Likewise, Chomsky (1995:319) states that " $\alpha$  adjoined to nonminimal  $K$  is not in the checking domain of  $H(K)$ " [the head of  $K$ ].

### 3.1.3 Projection of Features

The phrase structure generalization in (22) specifies that when  $\alpha$  adjoins to  $\beta$ ,  $\beta$  projects its (categorical) features. Chomsky (1995:256f) argues that this ‘projection of Target’ is the only option allowed.

We will not discuss the general line of argumentation here, as the consequence seems correct and desirable. Thus, if V moves and adjoins to C, the combination of V and C does not project a VP but a CP:



This is desirable, since constituents in which the verb has moved to C are not predicates (like VP) but propositions (like CP).

However, the postlexicalist approach to morphology forces us to paint a more balanced picture.

Consider the morphosyntactic object resulting from V-to-C adjunction in (29), repeated here without categorial label:



Morphology will interpret the  $\text{X}^\circ$  in (30) as a verb, not as a complementizer. Therefore, the categorial features of the verb will have to be part of the label of  $\text{X}^\circ$ .

More generally, it seems to be the case that head adjunction structures unify features of the various heads in the structure. Thus, when Agr moves to C in complementizer agreement constructions, the resulting complex is interpreted as an inflected complementizer, i.e. a complementizer with agreement features (see sections IV.3.2 and VII.2).

Thus, we seem to have reached a paradox. It is intuitively clear that the phrase in (29) cannot be a VP. But it appears equally clear that  $\text{X}^\circ$  in (30) must be a ‘verb’. The paradox seems to point to a fundamental asymmetry between heads (head adjunction structures) and phrases.

I would like to propose that the paradox is resolved when we take the derivational nature of the grammar into account. The phrase in (29) is defined as a CP at the point in the derivation at which C is merged with IP. Crucially, this precedes the operation by which V and C are merged. The phenomena indicate that adjunction of V to C does not affect the definition of CP: it remains a projection of C. Note that this excludes projection of any features from V to CP in (29).

In contrast, adjunction of V to C creates a new syntactic object,  $X^\circ$  in (30), the feature content of which has not yet been defined. The phenomena seem to indicate that  $X^\circ$  is a unification of features of V and C. Crucially, the categorial features seem to derive from the adjoined category, V, rather than from the target, C.

I have not established why head adjunction structures involve unification of features, and phrasal adjunction structures do not. Possibly, this has to do with the nature of Morphology, which processes head adjunction structures but not phrasal adjunction structures. We will return to this issue in section 3.3.

The discussion is summarized in the following hypothesis:

- (31) The label of  $X^\circ$  is a unification of the features of the constituents of  $X^\circ$

### 3.1.4 The Definition of Minimal Domain

Chomsky (1993:11) defines a *minimal domain* of a head  $\alpha$  as a set of positions which  $\alpha$  can enter into grammatical relations with. The relevant relations are the head-complement relation and the feature checking relation. The minimal domain is accordingly divided into a complement domain and a checking domain.

The definition of minimal domain in Chomsky (1993:11) is essentially representational, in the sense that the domain is defined over a full fledged X-bar structure. It seems possible to reformulate the definitions in derivational terms, referring to the operation Merge (see also Epstein 1995):

- (32)  $\alpha$  is in the minimal domain of  $\beta$  only if  $\alpha$  merges with  $\beta$

According to (32),  $\alpha$ , the complement of a head  $\beta$ , is in the minimal domain of a head  $\beta$ , since  $\alpha$  and  $\beta$  merge. This covers the head-complement relation. More specifically:

- (33) An XP  $\alpha$  is in the complement domain of an  $X^\circ \beta$  only if  $\alpha$  and  $\beta$  merge

The definition in (32) also covers the checking relation instantiated in head-adjunction structures (i.e. the V-feature checking relation). This relation is established by merging two heads:

- (34) An  $X^\circ \alpha$  is in the checking domain of an  $X^\circ \beta$  only if  $\alpha$  and  $\beta$  merge

The remaining feature checking relation, the N-feature checking relation, is standardly defined in terms of the specifier-head relation. (32) cannot

capture the specifier-head relation directly. However, since we may assume that a head and its projection share features, we can say that the N-features of a head  $\alpha$  are checked by the projection of  $\alpha$  (Zwart 1992a, 1993b, Epstein 1995).

This makes it possible to reinterpret the specifier-head agreement relation as a relation between a specifier and the projection of a head. If so, the following holds:

- (35) An XP  $\alpha$  is in the checking domain of an XP  $\beta$  only if  $\alpha$  and  $\beta$  merge

As can be seen, (33)-(35) are all instantiations of (32), the hypothesis that *licensing relations are sisterhood relations* (Zwart 1993b:373).

This yields the core positions a head  $\alpha$  can enter into grammatical relations with, indicated by the dashes in (36):

- (36)
- 
- ```

      graph TD
      XP1[XP] --- D1[--]
      XP1 --- XP2[XP]
      XP2 --- X1[X°]
      XP2 --- D2[--]
      X1 --- D3[--]
      X1 --- X2[X°]
  
```

Notice that the specifier of α cannot enter into a checking relation with a head β adjoined to α :

- (37)
-
- ```

 graph TD
 XP1[XP] --- ZP[ZP]
 XP1 --- XP2[XP]
 XP2 --- X1[X°]
 XP2 --- YP[YP]
 X1 --- Y[Y]
 X1 --- X2[X°]

```

In (37),  $X^\circ$  shares its features with its projection, XP. As I have argued, this takes place before Y is merged with  $X^\circ$ . Therefore, Y does not share its features with XP, and ZP cannot enter into a checking relation with XP to check features of Y. We conclude that head movement of  $\alpha$  does not create a derived checking position for N-features of  $\alpha$  (see also Zwart 1993b:234, to appear c).<sup>25</sup>

The definition of checking domain proposed here does not exclude adjunction of a head  $\alpha$  to a projection of  $\beta$  in order to check the V-features of  $\beta$ . This is not excluded, because we have assumed that a head and its

<sup>25</sup> Here I deviate from Chomsky (1993:14) and Rizzi (1991).

projection share features. In principle, the projection of  $\beta$  could check the V-features of  $\beta$ , just like the projection of  $\beta$  checks the N-features of  $\beta$ . This is the case of (26), which had to be excluded. We will return to this issue in section 3.2.

### 3.1.5 Multiple Specifiers

The definition of checking domain in section 3.1.4 does not exclude the possibility that a head  $\alpha$  has multiple specifiers (as proposed in Chomsky 1995:235). This is not excluded, because if a head  $\alpha$  and its projection share the features of  $\alpha$ , nothing seems to exclude that the features of  $\alpha$  are also present on the projection of the projection of  $\alpha$ .

In Zwart (1993b:26-27) I sought to exclude multiple specifiers by making a distinction between the first projection of a head  $\alpha$  (called the *Projection* of  $\alpha$ ) and further projections of  $\alpha$  (which I called *Segments* of the Projection of  $\alpha$ ). Multiple specifiers were then excluded by restricting feature sharing to the head-Projection relation.

The special status of the head-Projection relation can be related to the derivational character of the grammar. Heads cannot exist in a syntactic structure without a Projection. This is because heads are integrated in a syntactic structure via merger with a complement, which yields a Projection. In other words, the head and its Projection form a syntactic unit. Segments, on the other hand, never result from an operation that merges a head. Moreover, Projections can be integrated in syntactic structure without projecting a Segment (i.e. they can be complements or adjuncts/specifiers). This makes the Projection-Segment relation a looser relation than is the head-Projection relation. Feature sharing may be a function of the particular head-Projection relation.

The question disappears if multiple specifiers are allowed. However, the evidence adduced in Chomsky (1995) in support of multiple specifier constructions is far from conclusive. Chomsky (1995:235,344) mentions cases like English (38) and Icelandic transitive expletive constructions as supporting a multiple specifier analysis:

(38) **John probably has not left**

In (38), Chomsky assumes that *John* is in the outer specifier of TP, *probably* is in the inner specifier of TP, and *has* is in T. But this analysis leaves unexplained why specifier-head agreement requires adjacency in so many cases (among which the subject initial main clauses and inversion constructions studied here).

Transitive expletive constructions are illustrated in (39), with an example from Dutch:

- (39) a. **..dat er veel mensen een huis gekocht hebben**  
           that there many people a house bought have  
           "..that many people bought a house."
- b. **Er hebben veel mensen een huis gekocht**  
           there have many people a house bought  
           "Many people bought a house."

In Chomsky's (1995:344) analysis of similar facts from Icelandic, the expletive (*er*) and its associate (*veel mensen*) are in two distinct specifier positions associated with T. However, the fact that a verb appears between the expletive and the associate in main clauses (39b) indicates that there is a head position between the two specifiers occupied by the expletive and the associate (cf. Zwart 1992b).<sup>26</sup>

The question of multiple specifiers, raised in Chomsky (1995), is intimately related to another question raised there, namely whether languages like English can be assumed to have a functional category Agreement (Chomsky 1995:349f). Here, we will continue to assume the structure of the functional domain of Chomsky (1993), as introduced in section I.2.2.<sup>27</sup>

### 3.2 Movement

#### 3.2.1 Feature Movement

In Chomsky (1993), the formal features of lexical items must be checked before the derivation reaches the interface representations (PF and LF). The features are checked by functional heads, in highly local checking domains. Consequently, the feature checking requirement triggers

<sup>26</sup> Chomsky (1995:368) suggests that the verb second word order in main clauses is there "in order to satisfy the V-second property, which may belong to the phonological component." We continue to look upon the "verb second property" as an epiphenomenon, to be described and explained in terms of a minimalist syntactic theory.

<sup>27</sup> Apart from the issue of multiple specifiers and the analysis of transitive expletive constructions, Chomsky's main objection against a functional head Agr appears to be that "Agr is present only for theory internal reasons" (1995:349). The issue seems to hinge on whether Agr is present in the numeration, or interpretable at LF. If neither, Agr is added in the course of the syntactic derivation, only to be deleted before the interfaces are reached. In that case, the minimalist approach suggests that Agr should not be present at all. I have argued above that agreement features must be present in the numeration (they are variable features). One way of proceeding would be to say that formal features must be checked outside the lexical domain (a standard assumption held constant in the Principles and Parameters framework and in the Minimalist Program), so that the presence of agreement features requires the presence of a configuration for checking these features (AgrP). On the relevance of Agr for interpretation at the interfaces, see below, section 3.3.

movement of lexical items to positions in the checking domain of functional heads.

Thus, there are two sets of features: the features associated with lexical items, and the features associated with functional heads. These features have to match. The features associated with functional heads come in two types: the V-features, which have to match the features associated with lexical heads, and the N-features (NP-features) which have to match the features associated with phrases.

Word order variation across languages is described in terms of the strength of V-features and N-features. Strong features trigger overt movement (before Spell-Out). Weak features do not trigger movement at a particular point in the derivation. It follows from the principle Procrastinate that with weak features, movement takes place after Spell-Out.

In Chomsky (1995), movement is essentially described in the same terms, although there are important modifications. In Chomsky (1993), it was tacitly assumed that movement displaces entire lexical items. In Chomsky (1995), movement no longer respects the integrity of lexical items.

Chomsky (1995:230) takes lexical items to be bundles of features (formal features, semantic features, and phonological features). Since only the formal features of lexical items need to be checked, a minimalist assumption is that only the formal features of lexical items move (leaving the semantic and phonological features behind) (Chomsky 1995:261f). However, Chomsky (1995:262) proposes that isolated formal features are uninterpretable at the PF interface. Therefore, overt movement will have to involve pied piping of the semantic and phonological features. The minimalist ideal of pure feature movement can only be reached in covert syntax.

The feature movement proposal, and the asymmetry between overt and covert movement that it implies, finds a natural place within the postlexicalist approach of Halle and Marantz (1993) adopted here.

We have assumed that lexical items are bundles of formal features (F-features) and lexical-categorial features (LC-features). Phonological features are only added after Spell-Out, in a Morphology component (cf. also Chomsky 1995:229). More exactly, Morphology takes a morphosyntactic  $X^\circ$  object  $\alpha$  and replaces it with a form from the Lexicon that optimally matches the features of  $\alpha$  (see section 3.3 below).

It is clear that Morphology will not be able to interpret isolated formal features. F-features serve to select a form from a paradigm, but the paradigm itself (i.e., the relevant verb) must be selected on the basis of LC-features. Therefore, overt movement must involve movement of both F-features and LC-features. Covert movement, on the other hand, may involve F-feature movement only.

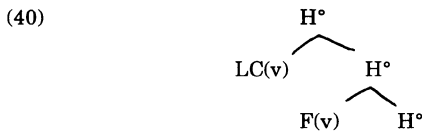


Chomsky (1996:9) further articulates the mechanism of overt movement. Since movement takes place for F-feature checking purposes only, we may assume that overt movement consists of two operations: movement of formal features and movement of the lexical item or phrase containing the trace of the moved feature (which I here take to be a set of LC-features). The latter is a Last Resort movement, needed only to turn the moved set of formal features into a legitimate (interpretable) object for PF.

I will adopt this further articulation of overt movement in the analysis of verb movement proposed here. Thus, strong V-features trigger F-feature movement (F-movement), leaving LC-features behind. LC-features move in a second movement operation (LC-movement), as a Last Resort, in order to create morphosyntactic objects that can be interpreted by Morphology.

Chomsky (1995:265,275) assumes that F-features move as a “package”. F-features that are not required to move in overt syntax move along with F-features that are, as “free riders”. I will adopt this assumption here without further discussion.

Since feature movement (especially LC-movement) feeds Morphology, it must be head movement. I therefore assume that overt verb movement to a functional head H yields structures like (40):



In (40), the F-features of the verb (F(v)) are merged with H<sup>°</sup>, yielding H<sup>°</sup>. In a second operation, the LC-features of the verb (LC(v)) are merged with H<sup>°</sup>, yielding (again) H<sup>°</sup>.

As noted in section I.2.1, the operation Merge (Generalized Transformation) always adds elements external to already existing phrase markers. This *extension condition* does not apply to head movement, since heads are never the root nodes in a phrase marker. In principle, then, the LC-feature could be adjoined lower than the F-feature. As we will see in chapter VII, there is some evidence suggesting that LC-features are always adjoined higher than F-features.<sup>28</sup>

<sup>28</sup> The separation of F-movement and LC-movement raises questions regarding the mechanism of XP-movement. Covert XP-movement is now predicted not to exist. This means that elements raising to scope positions in covert syntax must take scope from the functional heads they adjoin to in covert syntax via feature movement. However, a separation of F-  
(continued...)

Notice that if head movement is a combination of F-movement and LC-movement, we may have a principled explanation for the impossibility of adjoining a head to a phrase (see (26)). This follows if we assume that F-features and LC-features must be adjoined to the same head in order to be interpretable as a lexical item by Morphology.

### 3.2.2 *Attract $\alpha$ and Greed.*

The principle Greed (section 1.2.3) states that an element  $\alpha$  can move to a position in the checking domain of  $\beta$  only if a feature of  $\alpha$  is checked by  $\beta$ . Thus, the “focus” of the operation is on the element that moves,  $\alpha$ .

In Chomsky (1995:297), the focus of the operation is shifted to  $\beta$ , the functional head that checks a feature of  $\alpha$ . Thus,  $\beta$  attracts  $\alpha$  only if  $\alpha$  can check a feature of  $\beta$ .

Among other things, the difference is relevant to the Last Resort operation of LC-movement. Movement of LC-features takes place only to make sure that the moved F-features are part of an interpretable object at PF. It is not clear that LC-movement satisfies a feature checking requirement on the LC-features themselves.<sup>29</sup> On the other hand, if movement is attraction, we can say that  $\beta$  benefits from the attraction of the LC-features of  $\alpha$ .

It is not clear, however, that attraction of LC-features by  $\beta$  checks a feature of  $\beta$ . But recall that the crucial trigger for movement in the Minimalist Program is the need to create fully interpretable syntactic objects. Feature checking (inasmuch as it involves elimination of uninterpretable features) is just a subcase of that.<sup>30</sup> We can therefore generalize Greed in the following way:<sup>31</sup>

<sup>28</sup> (...continued)

movement and LC-movement in the case of overt XP-movement would reduce XP-movement to head movement as well, an incorrect result. We must either assume that overt LC-movement is phrasal movement, or that overt XP-movement does not involve a separation of F-movement and LC-movement. I will leave the matter for further study.

<sup>29</sup> As we will see in section 3.3, there is reason to believe that F-movement leaves a trace (a copy), so that a lexical head out of which the F-features have been moved would still be an interpretable object for Morphology.

<sup>30</sup> See Chomsky (1995:277) and section 3.3 below for a modification of the notion that formal features are uninterpretable at the interfaces.

<sup>31</sup> Chomsky (1995:297) further specifies that  $\alpha$  must attract the closest  $\beta$  that can check a feature of  $\alpha$ . We will not discuss this locality condition on movement here.

- (41) *Greed*  
 $\alpha$  attracts  $\beta$  only if merging  $\alpha$  with  $\beta$  turns  $\beta$  into an interpretable object

Chomsky (1995:324) suggests that a number of movement phenomena, formerly referred to as “stylistic rules”, may fall outside of the computational system characterized by movement for feature checking purposes (e.g. extraposition, right-node raising, VP-adjunction, scrambling). I will not discuss these phenomena in this study.

### 3.3 Interpretation

In section 2.2, we have seen that Chomsky (1995:231) makes a distinction between intrinsic and variable (“optional”) formal features. Chomsky (1995:277) proposes a further distinction among formal features, relating to interpretability of these features at the interfaces.

As discussed in section 1.2.3, the earlier version of the Minimalist Program took formal features to be uninterpretable at the interfaces. Elements carrying formal features at the interface representations would be illegitimate objects. The purpose of feature checking was to eliminate the relevant features, removing the illegitimate object from the interface representations.

In Chomsky (1995), this picture is refined. Certain formal features, like the  $\phi$ -features of nouns, are relevant for interpretation at LF, and therefore cannot be eliminated. They nevertheless enter into checking relations. Hence, checking no longer implies elimination.<sup>32</sup> Other formal features, like the Case features of nouns, the  $\phi$ -features of verbs, and, more generally, all formal features represented in functional heads, are uninterpretable at LF and have to be eliminated.<sup>33</sup>

<sup>32</sup> Importantly, since interpretable features are never eliminated, they are still accessible to syntactic operations after having been checked. This solves a problem of successive cyclic movement addressed in Zwart (1996a): if movement of a wh-element to the specifier position of an embedded CP results in checking and elimination of the wh-element's wh-features, no trigger for further wh-movement to the specifier position of the matrix CP remains. Successive cyclic movement, then, would be barred by Greed. This problem is solved in Chomsky (1995) by a) assuming that  $\phi$ -features of nouns (including wh-features of wh-elements) are not eliminated after feature checking, and b) describing movement as *attraction* by a functional head that needs to check the relevant feature. See above, section 3.2.2.

<sup>33</sup> A further refinement proposed in Chomsky (1995:280) is that some [-interpretable] features may be specified (parametrically) as accessible to further syntactic operations after checking  
 (continued...)

The postlexicalist approach to morphology forces us to modify the notion of interpretability. All formal features are (potentially) relevant for interpretation in the Morphology module. Selection of the most appropriate form from the Lexicon has to address the feature specifications of the morphosyntactic objects yielded by the syntactic derivation (cf. also Chomsky 1995:385 fn 50).

We will say that Morphology *replaces* these morphosyntactic objects (head adjunction structures) by lexical forms consisting of phonological features only. This ensures that formal features never appear at the PF interface.<sup>34</sup> However, for the proper operation of Morphology, the formal features will have to be visibly part of the syntactic output at the Spell-Out point. Therefore, feature checking cannot simply imply feature elimination.

This raises the question whether features are ever eliminated in feature checking. If features are not eliminated in overt syntax (as they cannot be), there is no reason to believe that feature checking in covert syntax would have a different outcome.

I would like to propose a different conception of feature checking that will generalize over overt and covert feature checking, but will at the same time keep the differences between the PF and LF interfaces into account.

Consider first feature checking in overt syntax. At the Spell-Out point, the derivation must “deliver” morphosyntactic objects ( $X^\circ$ s) which are fully interpretable by Morphology. We have defined morphosyntactic objects as pairs consisting of a) a pair of terms, and b) a label (see (19)). The label is a bundle of features. Let us assume that Morphology can only “see” the label, i.e. the set of features of  $X^\circ$ .<sup>35</sup>

I have argued that the label of an  $X^\circ$  is a unification of the features of the terms of  $X^\circ$ . Suppose  $X^\circ$  has the terms  $F(v)$  (the formal features of a verb) and AgrS. Since movement is now defined as attraction, AgrS needs something that  $F(v)$  has. One of the features of  $F(v)$  is the agreement feature (a set of  $\phi$ -features). We have argued that  $\phi$ -features are variable features, which are assigned a value upon entering the numeration. Thus, we distinguish *agreement* from an *agreement value*.

<sup>33</sup> (...continued)

(i.e., checked and deleted, but not “erased”). This refinement seems to be needed specifically for the analysis of transitive expletive constructions on p. 354. I will not discuss it here.

<sup>34</sup> Since formal features are relevant to the selection of the proper form in Morphology, we could maintain that the presence of the formal features (and the corresponding functional categories) is enforced by output conditions. In the absence of formal features, no form would be selected, and there would be nothing to interpret at the interface.

<sup>35</sup> This will be modified in section VII.3.

I would like to propose now that AgrS (the structural representation of agreement) lacks an agreement value. AgrS will only be interpretable by Morphology if it is assigned an agreement value. Therefore, it attracts F(v), which contains the agreement value AgrS needs.

Feature checking, on this view, is *assignment of a value to a functional head*. Feature value assignment takes place under a strict sisterhood condition (see (34); cf. Zwart 1993b:373).

As before, overt movement of F(v) takes place only if AgrS is arbitrarily specified as “strong”. Weak AgrS does not attract F(v) in overt syntax. This has the effect that AgrS is not interpretable in Morphology. Consequently, Morphology will not replace AgrS by a form from the Lexicon, and no illegitimate features will appear at the PF interface.

Consider next feature checking in covert syntax. Again, let us assume that the relevant interpretive component can only “see” the features on the label of the XPs and X<sup>0</sup>s in the output of the syntactic component.<sup>36</sup> I would like to propose that feature checking in covert syntax must be described as feature value assignment as well.

Consider the case of a subject moving covertly to the specifier position of a functional head, say AgrS. This implies that the N-features (NP-features) of AgrS are “weak”. If there is such a thing as covert movement, we must say that AgrSP needs to be assigned a value that is relevant for interpretation at LF. But if that is the case, then overt subject movement will also involve assignment of a value that is relevant for interpretation at LF.

Here it is important that the concept of “morphological” feature checking of Chomsky (1993) goes beyond selection of the proper inflected forms from the Lexicon. In particular, checking of N-features and V-features ensures that the noun phrase and the verb are “properly paired” (Chomsky 1993:29). Thus, the computational system displaces verbs and noun phrases to make sure that they are properly paired. The proper pairing involves establishing a configuration in which the grammatical function of the noun phrases with respect to the verb (subject, object, etc.) is formally expressed. Overt morphology is no more than a *reflection* of the grammatical functions, but do not necessarily indicate overt movement.

I would like to propose that AgrSP is interpretable at LF if it has a proper pairing of a subject and a verb. Since the interpretative component

<sup>36</sup> This is obviously a simplification, as interpretative processes like binding and control involve not just interpretation of XPs or pairs of XPs (chains), but also of the distance between XPs (locality). I am not clear about the nature of the ‘interpretative component’ referred to in the text. Chomsky (1995:322) suggests that there is a covert analogue to Morphology, WI. But there must be more to it, since, unlike Morphology, the covert interpretational component looks at XPs as well.

of LF can only see the label of AgrSP, “proper pairing” has to be read off from the features of the label of AgrSP. I therefore propose the following:

- (42) Let  $\alpha$  be a functional head mediating between  $\beta$  and  $\gamma$ .  
 Then  $\delta (= \alpha P)$  is interpretable at LF iff the label of  $\delta$  contains the feature values assigned by  $\beta$  and  $\gamma$ .

If we adopt (42), all movements that take place for feature checking purposes (i.e. all movements to positions in the checking domain of some functional head) are driven by LF interpretability requirements.

Returning to overt movement now, we see that interpretability at PF (i.e. interpretability for the Morphology component) is not the ultimate trigger for movement for feature checking purposes. Feature movement is triggered by the “proper pairing requirement” (42). The only movement that is not triggered by (42) is the movement of lexical-categorical features (LC-movement). This movement is triggered by the need to select a correct paradigm in the Morphology component, as described above.<sup>37</sup>

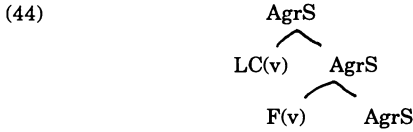
Notice that we can now simplify the feature percolation process inside  $X^{\circ}$ s. We have argued that the label of  $X^{\circ}$  is a unification of the features of the constituents of  $X^{\circ}$ . But if adjunction involves feature value assignment, the relevant feature value will be transferred from the adjoined element to the target. Consider adjunction of a verb to AgrS. After F-movement, the complex may look like (43):

- (43)
- $$\begin{array}{c} \text{AgrS} \\ \swarrow \quad \searrow \\ \text{F(v)} \quad \text{AgrS} \end{array}$$

Here, F(v) assigns an agreement value to AgrS. The feature value then percolates up, and becomes part of the label of (the higher) AgrS.

The reason we said that the label of a head is a unification of the features of the constituents of the head was that verb movement to a functional head  $X^{\circ}$  yields a complex that is interpreted by morphology as a verb, not as an  $X^{\circ}$ . But overt verb movement involves a combination of F-movement (as in (43)) and LC-movement, illustrated in (44):

<sup>37</sup> Notice that the separation of F-movement and LC-movement makes it possible to revise the notions “strong” and “weak”. Instead of saying that the functional heads are specified for strength, we can say that F-features are strong or weak. When F-features are strong, they must be spelled out in the morphosyntactic complex which they have been adjoined to. When F-features are weak, they must be spelled out in the position of their trace, i.e. in the position of the lexical head. Only in the former case is movement of LC-features triggered. Thus, the strong-weak distinction refers to movement of the LC-features, not to movement of the F-features in that case (see also Groat and O’Neil 1996).



Again, we can say that LC( $\nu$ ) assigns a value to AgrS. In this case, the value would be the categorial feature [+V]. This feature then percolates up and becomes part of the label of the top AgrS.<sup>38</sup>

This means that head adjunction structures fully conform to the phrase structure law in (22), repeated here:

(45)  $\alpha^m + \beta^n = \alpha^n$

where  $\alpha, \beta$  are categorial features and  $m, n = [\pm \text{projection}]$

Thus, features project from the target of adjunction only (cf. Chomsky 1995:256f), with the exception of the feature specifying phrase structure level, which derives from the adjoined element.

### 3.4 Conclusion

In this section, I have adopted the following regarding phrase structure, movement, and interpretability.

In phrase structure, there is a fundamental distinction between heads and nonheads, but there is no intermediate phrase structure level (X'). A phrase marker  $\gamma$  is the result of application of the operations Merge and Move (Generalized Transformation), and consists of a pair of sisters (terms) and a label specifying the features of  $\gamma$ . One of the terms is the head of  $\gamma$ , and projects its features. The other term is the adjunct, and determines the phrase structure level of  $\gamma$ .

The sisterhood relation yielded by Merge and Move is the fundamental grammatical configuration relevant to syntactic licensing.

Lexical items are represented in the syntax by two bundles of features: formal features (F-features) and lexical-categorial features (LC-features). F-features are attracted by functional heads for the purpose of feature checking. LC-features move only as a Last Resort, to make sure that F-features are not stranded in a head adjunction structure without LC-features.

<sup>38</sup> Notice that transfer of categorial features must be restricted to head adjunction structures, otherwise adjunction of a DP to AgrSP would turn AgrSP into a nominal phrase.

Feature checking is assignment of a feature value to a functional head or functional projection. Movement takes place in order to create interpretable syntactic objects. Head adjunction structures ( $X^{\circ}$ s) are interpreted by the postsyntactic component Morphology. Phrases (XPs) are interpreted by LF as containing a proper pairing of two syntactic elements.

Movement of XPs and F-features to positions in the functional domain is triggered by Full Interpretation, operating at LF. A functional projection is interpretable at LF if it has been assigned a feature value by both an XP and a head (more exactly, a bundle of F-features). Movement of LC-features ("overt movement") is triggered by Full Interpretation, operating at PF. Without LC-features, a head adjunction structure cannot be interpreted by Morphology.

## 4 Conclusion

In this chapter, the following elements of the analysis of verb movement in Dutch have been introduced.

Morphology is a postsyntactic component. Morphology takes a head adjunction structure yielded by the syntactic derivation and translates it into a form from (a paradigm in) the Lexicon.

Formal features (F-features) and lexical-categorial features (LC-features) move separately. F-features are attracted by a functional head for syntactic licensing purposes (feature checking). LC-features are attracted in order to create a morphosyntactic object that can be interpreted by Morphology. In both cases, movement is triggered by the Full Interpretation requirement.

Feature checking takes place under the strict locality condition of sisterhood.

Feature checking never involves elimination of features. Formal features are relevant to interpretation by Morphology at PF, and therefore cannot be eliminated. I have proposed that feature checking consists in assignment of a feature value to a functional head or functional projection. These feature values are part of the input to the interpretive components PF and LF.



## VI

### THE VERB MOVEMENT ASYMMETRY IN DUTCH

In this chapter I propose an analysis of the asymmetry between main and embedded clauses in Dutch. The analysis is couched within the minimalist framework of Chomsky (1993, 1995). More particularly, it employs the theory of movement and feature checking discussed in chapter V.

This chapter is organized in the following way. The introduction recapitulates the arguments against the traditional analysis of verb movement in Dutch, according to which the verb moves to C in all main clauses. Section 2 presents an analysis of embedded clauses, in which the formal features of the verb move to C, leaving the lexical-categorial features of the verb behind in V. Section 3 presents an analysis of subject initial main clauses, in which both the formal features and the lexical-categorial features move to AgrS, the latter as a Last Resort operation. Section 4 argues in more detail that the subject-verb agreement relation cannot be realized in a specifier-head configuration in CP. Finally, section 5 briefly addresses the analysis of the verb movement asymmetry in other Germanic languages.

#### 1 Introduction

The position of the finite verb in subject initial main clauses and embedded clauses in Dutch is illustrated in (1), repeated from II.1.2.1:

- (1) a.      **Jan**    **kust**    **Marie**  
         John kisses Mary  
     b.    \* **Jan**    **Marie**    **kust**  
         John    Marie    kisses

- (2) a.     **..dat**   **Jan**   **Marie**   **kust**  
           that   John   Mary   kisses  
           "..that John kisses Mary."  
       b.   \*   **..dat**   **Jan**   **kust**   **Marie**  
               that   John   kisses   Mary

As explained in section II.4.3, the subject and the finite verb have to be adjacent in subject initial main clauses:

- (3) a.   \*   **Jan**   **altijd**   **kust**   **Marie**  
               John   always   kisses Mary  
       b.   **Jan**   **kust**   **altijd**   **Marie**  
               John   kisses   always   Mary  
               "John always kisses Mary."

I take this to mean that the subject and the verb are in a spec-head configuration in (1a).

Verb movement in Dutch and German does not take place when the complementizer is present. Traditionally, this is taken to indicate that the finite verb and the complementizer vie for the same position, C (Koster 1978a, Den Besten 1989, Lenerz 1985). As we have seen, the assumption that the finite verb moves to C in all main clauses is one of the corner stones of the traditional analysis of Dutch syntax.

However, when two elements are in complementary distribution they do not necessarily have to be represented in a single position. The presence and position of each element must be explained independently, and the apparent interaction of the two elements needs to be described in terms of what explains their distribution in the first place.

Thus, postulating that the verb and the complementizer are in the same position in Dutch does not provide an explanation for the distribution of the complementizer and the verb. This explanation can only be obtained if there is an independent reason for the verb to move to the position of the complementizer when the complementizer is not present.

At this point, the problem posed by the pattern in (1)-(2) can be formulated as follows. If the complementary distribution of the complementizer and the verb is explained by the fact that the verb has to move to the complementizer position, there must be a trigger TR for verb movement to C.<sup>1</sup> But if TR exists, it must force the verb to move to C in

<sup>1</sup> We might conceive of TR as a V-feature of C. However, it is not clear that C contains V-features to begin with. The features that are conventionally associated with C are not associated with the verb itself, but with other grammatical features like tense and aspect. Verbs, on the other hand, do not have apparent 'complementizer features'. It may be necessary to draw a distinction between functional heads that are associated with  
 (continued...)

embedded clauses as well. Since movement of the verb to C in embedded clauses is blocked by the presence of the complementizer, embedded clauses like (2a) are predicted to be ungrammatical. This is contrary to fact, hence TR does not exist. If TR does not exist, there is no reason for the verb to move to C in (1a) either.

It turns out, then, that the complementary distribution of the verb and the complementizer in Dutch can only be explained if we assume that the verb does *not* move to the complementizer position. Fortunately, this way of accommodating a complementary distribution is neither logically nor theoretically impossible. It may be the case, for instance, that the presence of a complementizer in C makes movement of the verb to a lower functional head superfluous (as proposed in Travis 1984, 1991; Zwart 1991a, 1993b).

Let us consider the traditional hypothesis that the verb moves to C in (1a) in a little more detail.

First, we have seen in chapter III and IV that there is reason to believe that phrase structure in Dutch is head-initial (see also Zwart 1994a). If we adopt the structure of the functional domain proposed in Chomsky (1993), illustrated in Figure 1, we must conclude that there are a number of functional heads in addition to C that could be taken to host the verb *kust* in (1a).<sup>2</sup>

<sup>1</sup> (...continued)

grammatical features of the verb and functional heads that are not. If so, Agr and T belong to the former and C to the latter. Such a distinction has been proposed in Chomsky and Lasnik (1993), who call the former category *L-related*. *L-relatedness* is redefined in terms of the presence of V-features in Chomsky (1993:28), where it is suggested that C is not *L-related* (see also chapter VII).

<sup>2</sup> Figure 1 is repeated from section I.2.2. I have replaced the intermediate X' levels by XP, in view of the discussion in section V.3.1.2.

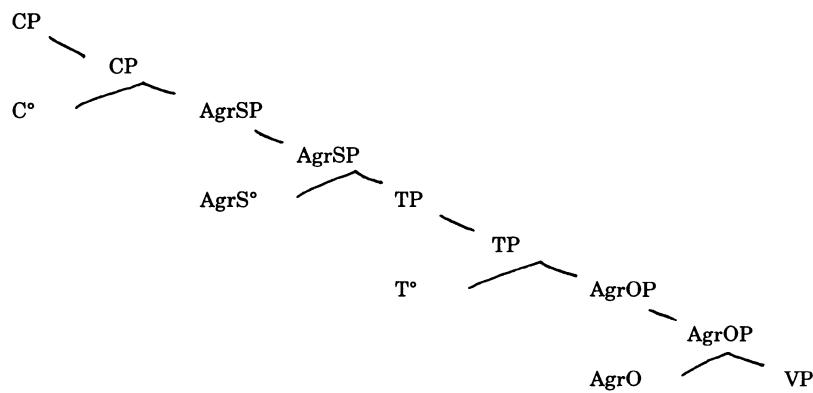


FIGURE 1

Given the structure in Figure 1, the generalized V-to-C hypothesis cannot be motivated on the ground that C would be the only head available for the verb to move to.

Moreover, we may wonder whether C and its projection CP are always present. Recall that in the minimalist approach, phrase structure is built from the bottom up, via the processes Merge and Move. There is no rewrite rule telling us to start constructing a tree from the top down, by rewriting CP as the combination of a specifier and C', etc.

The question is whether, in building up a structure for (1a), there is any reason to project a CP level in addition to an AgrSP level. The CP level is standardly associated with A'-phenomena like Wh-movement, topicalization, etc, or it functions as the link between an embedded clause and a main clause. In a simple subject initial main clause like (1a), there appears to be no A'-syntax, nor do we need a CP to link the clause to a matrix clause. Therefore, a provisional minimalist conclusion would seem to be that CP is absent in (1a).

Suppose, nevertheless, that CP is projected in (1a), and that there is a trigger for movement of the verb to C. The question then arises why neutral order main clauses do not come out like (4):

- (4)            \* **Kust    Jan    Marie**  
                 kisses   John   Mary

(declarative)

In (4), the intended analysis is that the verb *kust* has moved to C, and that the subject *Jan* is in its designated licensing position, Spec,AgrSP (like in (2a)). Thus, the question is why Dutch is not a (surface) VSO language.

Traditionally, the ungrammaticality of (4) has been described in terms of a 'verb second requirement' (cf. Koster 1975). In the minimalist approach, movement must be described in terms of morphological feature checking. For inversion constructions, the relevant feature can be identified as a wh-feature or a topic/focus feature. But in subject initial main clauses, there do not seem to be any features that could trigger subject movement to Spec,CP. The only clearly established features involved in subject placement are the subject's agreement features, which trigger movement to Spec,AgrSP.<sup>3</sup> Again, it seems that the traditional analysis of (1a) is not without stipulations.

Further immediate evidence against a generalized V-to-C analysis of verb movement in Dutch is provided by the double agreement phenomenon discussed in section IV.3 and by an asymmetry between subject clitics and object clitics (as noted by Travis 1984:123).<sup>4</sup>

Double agreement dialects have two verb forms for one set of  $\phi$ -feature values. One of the forms has the same agreement morpheme as the inflected complementizer. In one type of double agreement dialect, the East Netherlandic type, this complementizer agreement form shows up in inversion constructions, and the other form, the verbal agreement form, shows up in subject initial main clauses:

- (5) a.     **Wy**     **speult**  
           we     play  
       b.     **..datte** **wy**   **speult**  
           that-AGR we   play  
       c.     **Speule** **wy?**  
           play   we

If the complementizer agreement form *speule* (5c) is indicative of the verb being in C, the verbal agreement form *speult* in (5a) suggests that the verb is lower than C. This was one of the arguments in chapter IV to conclude that Dutch has head-initial functional projections in addition to CP.

<sup>3</sup> See section 6.4 for more detailed discussion. One might suppose that the subject-verb agreement relation must be (re)created in CP when the verb moves to C (Rizzi 1991). We will see that this is not a possibility under the approach to movement and feature checking proposed in chapter V (see also Zwart, 1993b:231f, to appear c).

<sup>4</sup> The relevant asymmetry was noted earlier by Kruisinga 1938:95, Merckens 1961:152, Koster 1978a:210.

The asymmetry between subject clitics and object clitics is illustrated in (6), repeated from section II.1.5:

- (6) a.        **Ze**            **heeft Jan gekust**  
               she-SCL   has   John   kissed  
               "She kissed John."  
       b.        \* **'r**            **Heeft Jan gekust**  
               her-OCL   has       John   kissed  
               "John kissed her."

This asymmetry suggests that the sentence initial position in (6a) has a different status from the sentence initial position in (6b). In Travis' (1984, 1991) analysis, this follows on the assumption that the verb is in C in (6b), but in a lower functional head (INFL) in (6a).<sup>5</sup>

Thus, it seems that there is every reason to assume that the finite verb in (1a) is not in C, but in a lower functional head, presumably AgrS. Below, in section 4, I will discuss arguments that have been advanced in the literature in support of the hypothesis that the verb moves to C in subject initial main clauses in Dutch (and comparable languages). We will see that these arguments dissolve under the analysis of verb movement proposed here.<sup>6</sup>

First, I would like to present the analysis of the verb movement asymmetry in Dutch proposed here. This analysis employs the notions of the minimalist framework in general, and of the theory of movement and feature checking of chapter V in particular. I will first address the question why no verb movement takes place in embedded clauses in Dutch (cf. (2b)).

<sup>5</sup> The analysis is based on the assumption that the weak pronouns are in specifier positions. The specifier position of subject initial main clauses is analyzed as Spec,IP, an A-position, whereas the specifier position of inversion constructions (Spec,CP) is an A'-position. From this perspective, the asymmetry between subject and object clitics may be explained away if we assume that Spec,CP can be a derived A-position if the subject-verb agreement relation is recreated in CP (Rizzi 1991). See section 4 for discussion. If the weak pronouns are clitics, as I have argued in section IV.2, the situation is slightly more complicated, though the conclusions remain the same. See section VII.3 for discussion.

<sup>6</sup> The arguments that will be discussed involve the absence of verb movement in embedded clauses, the distributional properties of the fronted verb and the complementizer, the phenomenon of narrative inversion, and the phenomenon of auxiliary deletion in Swedish (Den Besten 1989, Holmberg 1986).

## 2 Embedded Clauses

### 2.1 Embedded Verb Movement

If the structure of a finite clause in Dutch is as in Figure 1, and if the verb moves to AgrS in subject initial main clauses, then why does the verb not move to AgrS in embedded clauses as well (cf. (2b))?

In order to appreciate this question more fully, it may be useful to compare Dutch with other Germanic languages. As discussed in section III.1.3, we can make the following distinctions:

(7) *Germanic Languages*

**verb movement in subject initial main clauses**

no: English  
yes: all others

**verb movement in all embedded clauses**

yes: Yiddish, Icelandic  
no: Dutch, German, Frisian, Swedish, Danish, Norwegian

The existence of languages like Yiddish and Icelandic, which have verb movement in both main and embedded clauses, makes the question why Dutch does not have embedded verb movement more poignant. The following are examples of verb movement in main and embedded clauses in Yiddish and Icelandic:

- (8) a. **Dos yingl hot geleyent dos bukh** Yiddish  
the boy has read the book  
b. **..az dos yingl hot geleyent dos bukh**  
that the boy has read the book
- (9) a. **Jón (\*ekki) keypti bókina (ekki)** Icelandic  
John not bought book-the not  
"John did not buy the book."  
b. **..að Jón (\*ekki) keypti bókina (ekki)**  
that John not bought book-the not  
"..that John did not buy the book."

The analysis of verb movement in Germanic must contain an instance of parametric variation describing the difference between Yiddish and Icelandic on the one hand, and Continental West Germanic and Mainland Scandinavian on the other.

I will argue in section 2.2 that Standard Dutch shares a property with the complementizer agreement dialects of Dutch, namely the presence of AgrS-to-C movement (cf. Hoekstra and Marác 1989, Zwart 1993b,d). Moreover, I propose that all languages showing the verb movement

asymmetry characteristic of Dutch (i.e. Frisian, German, Swedish, Danish, Norwegian) have AgrS-to-C movement, and that the symmetric verb movement languages (Yiddish and Icelandic) lack AgrS-to-C movement (see section 5).

Interestingly, all asymmetric verb movement languages appear to show a limited amount of embedded verb second. This is certainly true of Mainland Scandinavian (Vikner 1993) and Frisian (De Haan and Weerman 1986). But Colloquial Dutch allows embedded verb movement in exactly the same contexts as Mainland Scandinavian and Frisian, as will be discussed in section 5 (see also Weijnen 1971:16, De Rooij 1965a:92f, 127f, Den Besten 1986 (1989:138), Zwart 1991a:88 fn 23).<sup>7</sup>

The properties of embedded verb second constructions in Frisian have been documented very well (see Overdiep 1932, De Haan and Weerman 1986, Van der Meer 1988, De Haan 1990). Importantly, Frisian has complementizer agreement in embedded clauses, but only if the embedded clause does not show verb movement (Van der Meer 1991):

- (10) a.    **Heit sei    datst    do    soks    net    leauwe    moast**                      Frisian  
          dad said    that-2SG you    such    not    believe    must-2SG  
          "Dad said that you should not believe such things."  
       b.    **Heit sei    dat/\*datst    do    moast            soks    net    leauwe**  
          dad said    that/that-2SG you    must-2SG    such    not    believe  
          "Dad said that you should not believe such things."

In (10a), the finite verb of the embedded clause *moast* 'you must' is in sentence final position. We assume it is in V, just like in embedded clauses in Dutch. In (10b), the finite verb occupies the second position in the embedded clause, to the immediate right of the subject *do* 'you'. This is an illustration of the embedded verb movement phenomenon. Crucially, the complementizer *dat* lacks the complementizer agreement morpheme *-st* in (10b), but not in (10a).

The facts from Frisian indicate that there is a complementary distribution of verb movement and complementizer agreement. If complementizer agreement is AgrS-to-C movement, and (embedded) verb movement is V-to-AgrS movement, it becomes clear that not C, but AgrS is the pivot in the Continental West Germanic verb movement asymmetry.

<sup>7</sup> German also allows embedded verb movement, but differs from the other languages in that it does not have embedded verb movement when a complementizer is present. Therefore, an alternative analysis in terms of parataxis seems possible. Many German dialects tend to avoid the use of embedded clauses. German also differs from the other languages in that embedded verb movement clauses are not islands for extraction. These facts have also been analyzed in ways that do not involve embedded verb movement but parenthesis (see Reis 1996).



Extrapolating from the Frisian facts, we hypothesize that AgrS-to-C movement and V-to-AgrS movement are in complementary distribution:

- (11)
- |                                    |   |      |   |
|------------------------------------|---|------|---|
|                                    | C | AgrS | V |
| <i>embedded clause</i>             |   |      |   |
| <i>subject initial main clause</i> |   |      |   |

This complementary distribution of AgrS-to-C movement and V-to-AgrS movement is the key to our understanding of the verb movement asymmetry in Dutch and related languages.

## 2.2 Generalizing AgrS-to-C Movement

In section IV.3.3, I discussed Hoekstra and Marácz' (1989) proposal that complementizer agreement is a morphological reflex of I-to-C movement (AgrS-to-C movement). Hoekstra and Marácz (1989) furthermore propose that languages with and without complementizer agreement have different settings of an "I-to-C parameter". We found, however, that no other syntactic properties characterizing complementizer agreement dialects can be associated with the I-to-C parameter. Therefore, it seems that the I-to-C parameter proposed by Hoekstra and Marácz (1989) only describes a *morphological* difference across dialects, namely the presence or absence of inflected complementizers.

There is, however, one syntactic property that all complementizer agreement dialects have in common: they all show the verb movement asymmetry between main and embedded clauses illustrated in (1)-(2) for Standard Dutch.

This is illustrated with examples from the dialects discussed in section IV.3 (examples taken or adapted from Van Haeringen 1939, Haegeman 1990, Van Ginneken 1939, Hoekstra and Marácz 1989, Kufner 1961, Bruch 1973, Van Haeringen 1958, Bayer 1984a; the Brabantish examples are construed by the author):

- (12)
- |    |                                                                                                    |                 |
|----|----------------------------------------------------------------------------------------------------|-----------------|
| a. | <p><b>..datte ze ziek benne</b></p> <p>that-PL they sick are-PL</p> <p>"..that they are sick."</p> | South Hollandic |
| b. | <p><b>Ze benne ziek</b></p> <p>they are-PL sick</p>                                                |                 |

- (13) a. **..da-Ø-se      zie      komt**  
that 3SG she she comes  
"..that she comes."  
b. **Ze      komt      zie**  
she comes she  
"She comes."
- (14) a. **..of-s      toe      nait      koms**  
whether 2SG you not come-2SG  
"..whether you are not coming."  
b. **Doe      koms      nait**  
you come-2SG not  
"You are not coming."
- (15) a. **..dat-st      do      jûn      komst**  
that 2SG you tonight come 2SG  
"..that you're coming tonight."  
b. **Do      komst      jûn**  
you come-2SG tonight  
"You're coming tonight."
- (16) a. **..damid-sd      net      kommsd**  
sothat 2SG not come-2SG  
"..so that you don't come."  
b. **Kommsd      net**  
come-2SG not  
"You're not coming."
- (17) a. **..ob-s      du      nët      wëlls**  
whether you not want-2SG  
"..whether you do not want to."  
b. **Du      wëlls      nët**  
You want-2SG not  
"You do not want to."
- (18) a. **..datte      wy      piano      speult**  
that-1PL we piano play-1PL  
"..that we play the piano."  
b. **Wy      speult      piano**  
we play-1PL piano  
"We play the piano."
- (19) a. **..dadde      gullie      host      komt**  
that-2PL you almost come-2PL  
"..that you are almost coming."  
b. **Gullie      komt      host**  
you come almost  
"You are almost coming."

- (20) a. **..das-ma mir noch Minga fahrn** Lower Bavarian  
 that 1PL we to Munich go 1PL  
 "...that we are going to Munich."  
 b. **Mir fahr-ma noch Minga**  
 we go 1PL to Munich  
 "We're going to Munich."

All these examples from complementizer agreement dialects show the verb movement asymmetry familiar from Standard Dutch. The finite verb follows adverbs, negation elements, objects, embedded predicates, particles, doubling pronouns, etc. in embedded clauses, and precedes them in main clauses. This is an exceptionless syntactic generalization that we can make over complementizer agreement dialects in Germanic.

Moreover, as the Frisian examples in (10) show, complementizer agreement disappears in embedded verb movement constructions, suggesting that AgrS-to-C movement and the absence of verb movement are related.

The fact that Standard Dutch shows the same verb movement asymmetry as do complementizer agreement dialects, suggests that Standard Dutch has AgrS-to-C movement as well. The only difference between Standard Dutch and the complementizer agreement dialects appears to be of a morphological nature: Standard Dutch lacks a paradigm of inflected complementizers.

It is quite plausible that the absence of inflected complementizers in Dutch is a superficial phenomenon. In many dialect grammars, complementizer agreement is mentioned as an optional phenomenon (cf. Ter Laan 1953:111, see also Van Haeringen 1958:310), and, as Vanacker (1949) notes, dialects tend to lose complementizer agreement due to the influence of the standard language. However, loss of complementizer agreement never affects the syntax of the dialects in question. The verb movement asymmetry remains the same, suggesting that the interaction of AgrS-to-C movement and V-to-AgrS movement is still present.

If this is correct, Standard Dutch must be regarded as a complementizer agreement dialect that has lost the morphological complementizer agreement paradigm, but retains the abstract AgrS-to-C movement.

### 2.3 Feature Movement

Van Haeringen (1939:176) proposes to describe complementizer agreement as a case of syntactic prolepsis, needed to bridge the gap that separates the subject and the inflected verb in embedded clauses.

This comes close to the feature movement proposal advanced here. Let us make the following assumptions about Dutch:

- (21) 1. The N-feature of AgrS is strong  
 2. The V-feature of AgrS is strong

The assumption that the N-feature of AgrS is strong accounts for movement of the subject to the specifier position of AgrS. This part of the syntax of Dutch is generally accepted, and will not be further elaborated here.<sup>8</sup>

The assumption that the V-feature of AgrS is strong accounts for verb movement to AgrS. However, consider the process of verb movement in more detail.

I have assumed that lexical items are bundles of features. A 'verb' is a combination of formal features (F-features) and lexical-categorical features (LC-features). Formal features, such as agreement features, are assigned a value upon entering the numeration (the set of lexical items used in the derivation).

Formal features express a syntactic relation. For instance, agreement features express the syntactic relation between a subject and a verb. I have proposed that syntactic relations are checked under the strictly local condition of sisterhood.

A fundamental assumption of generative grammar is that syntactic relations (like subject-of, object-of, etc.) are detached from thematic relations (like external argument-of, internal argument-of, etc.). In the Minimalist Program, it is assumed that thematic licensing relations are established by the operation Merge (binary Generalized Transformation), and that syntactic licensing relations are created in the course of the derivation, via displacement of elements from their initial position (by the operation Move, a singulary Generalized Transformation).

The combination of the sisterhood requirement and the displacement requirement makes it inevitable that syntactic relations are established by a *mediator*. The functional projections AgrSP, TP, and AgrOP in Figure 1 are taken to be such mediators.

We have assumed that AgrS is a representation of the agreement features of the 'verb'.<sup>9</sup> Unlike the agreement features in the set of formal features making up the verb, AgrS lacks a value. It needs to be assigned two values, one from the verb and one from the subject. We have assumed that feature checking is assignment of a value. The sisterhood condition on feature checking tells us that the subject must adjoin to AgrSP and the verb ('s F-features) must adjoin to AgrS.

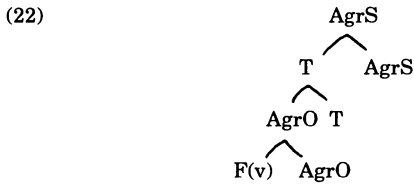
<sup>8</sup> I will not attempt to further articulate the description of XP-movement in terms of feature movement here.

<sup>9</sup> It might be more correct to speak of 'the agreement features of the sentence', in view of the discussion in section V.3.3.

AgrS needs to be assigned a value. Therefore it attracts the features which can provide it with a value: the F-features of the verb. Since the V-features of AgrS are taken to be strong, the F-features of the 'verb' move to AgrS in overt syntax, leaving the LC-features of the 'verb' behind in V.

Chomsky (1993:7) proposes that there is really only one Agr element, which is instantiated twice, as AgrS and AgrO. This implies that if the V-features of AgrS are strong, so must be the V-features of AgrO. In other words, the movement of the F-features of the 'verb' must proceed stepwise, via AgrO.

Since T must be assigned a value as well (it needs a tense specification from the corresponding features of the 'verb'), we may assume that the F-features of the verb move from AgrO to AgrS via T.<sup>10</sup> If so, F-movement to AgrS yields the morphosyntactic object in (22):



F(v), the set of formal features of the verb, assigns a value to AgrO (i.e., checks the V-features of AgrO). This value assignment is part of the process by which the verb and the object are properly paired. It happens to have no effect on the selection of a verb form from the Lexicon in Morphology in Dutch.

The complex F(v)+AgrO moves on to T, assigning a value to T (checking the V-feature of T).<sup>11</sup> The resulting complex T, consisting of the terms AgrO and T, moves on to AgrS, assigning a value of F(v) (in AgrO) to AgrS.

<sup>10</sup> We may stipulate that the V-features of T are strong, or derive the local head movement from the Head Movement Constraint (Travis 1984), which prohibits head movement across a head. As I argue in Zwart (1996a), the effects of the Head Movement Constraint can be derived from feature checking requirements. If a skipped head must be assigned a value by the element that moves, it will not be assigned a value and remain uninterpretable at the interfaces.

<sup>11</sup> Notice that we have to assume here that AgrO takes over the value assignment from F(v). We might propose that value assignment consists in a complete transfer of the F-features of the verb to AgrO, after which the relevant features percolate up to become part of the label of AgrO. Alternatively, we might return to the idea that the label of a head is a unification of the features of the terms of the head.

So far, we have not yet executed the final step in the derivation, AgrS-to-C movement. In Van Haeringen's (1939) proposal, C needs the agreement features of the verb in order to bridge the gap between the subject and the inflected verb in V. But in our analysis, this gap has been bridged already by movement of the F-features of the verb to AgrS. Furthermore, it is unclear whether there is any intrinsic relation between C and AgrS.<sup>12</sup>

In order to describe AgrS-to-C movement in minimalist terms, we must identify a grammatical feature associated with a lower head, which must be assigned to C. I will follow Den Besten (1978) in assuming that this grammatical feature is tense.

Den Besten (1978, see 1989:92) shows that there is a clear interdependency between C and finiteness in Dutch. Thus, finite embedded clauses have one of the complementizers *als*, *of*, *dat*, whereas nonfinite embedded clauses have *om* (see sections II.1.2.2 and IV.1.2). The association of C with tense is also explored in Stowell (1981), Pesetsky (1982), and forms a standard ingredient of work in the Government and Binding framework (cf Chomsky 1981:54). Hoekstra and Marácz' (1989) I-to-C parameter can be seen as an outgrowth of that work.

Importantly, the relation between C and tense works in one direction only. Thus, a particular choice of complementizer (itself dependent on the nature of the matrix verb, cf. Pesetsky 1994) requires a particular value for tense. But a particular value for tense (say, finite) does not require the presence of a corresponding complementizer.

The unidirectionality of the C-tense relation suggests an analysis in terms of attraction (see section V.3.2.2 and Chomsky 1995:297).<sup>13</sup> C needs to be assigned a value for tense, and therefore attracts the complex in (22), which harbors the tense features of the verb (one of the features in F(v)), as well as T itself.<sup>14</sup>

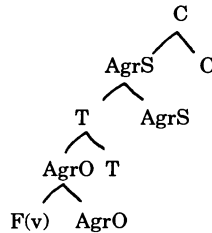
<sup>12</sup> Shlonsky (1994) proposes to describe complementizer agreement in terms of an agreement category associated with C (AgrC), distinct from AgrS, but entering into subject agreement. The present proposal makes no use of this additional agreement projection. See Zwart (1994b) for discussion.

<sup>13</sup> In the earlier stage of the minimalist approach (cf. Chomsky 1993), the unidirectionality of the relation between C and T was a problem. Since C is absent in subject initial main clauses, by minimalist hypothesis, we cannot say that T itself needs to get a feature checked by moving to C. In Zwart (1993b), I therefore described AgrS-to-C movement in terms of a specific requirement on AgrS: AgrS needed to move to C in order to remove the V-features from the head position of AgrSP. This stipulation is now no longer necessary.

<sup>14</sup> There is an element of indeterminacy here, since both the features of the verb and tense itself could assign a value to C. The question cannot be settled on the basis of Dutch alone, since in Dutch the entire morphosyntactic object in AgrS will move to C. Conceptual considerations decide in favor of having T, not F(v), assign a tense feature to C. This has to (continued...)

Movement of the complex in (22) to C now yields the morphosyntactic object in (23):

(23)



The morphosyntactic object in (23) is the result of AgrS-to-C movement. As argued above, it is this movement that is characteristic of the asymmetry between main and embedded clauses in both complementizer agreement dialects and Standard Dutch.

## 2.4 Spell-Out

So far we have concentrated on movement of the formal features of the verb from V, via AgrO, T, and AgrS, to C. Overt verb movement requires a second movement operation, movement of the lexical-categorical features of the verb. This movement, I have argued in chapter V, takes place as a Last Resort operation, to create morphosyntactic objects that are interpretable by Morphology.

Consider the morphosyntactic object in (23), the result of overt AgrS-to-C movement in a tensed embedded clause in Dutch. In tensed embedded clauses in Dutch, the complementizer in C is a lexical item (*als*, *of*, or *dat*).<sup>15</sup> In the postlexicalist approach adopted here, a lexical complementizer is a bundle of features, including lexical-categorical

<sup>14</sup> (...continued)

do with the definition of functional heads as being  $\pm$ L-related (Chomsky 1993:28), where L-related functional heads carry a feature to be checked by the verb. In terms of value assignment, we can rephrase this and define L-related heads as heads that need to be assigned a feature value by a feature of the verb, and L-related positions as positions in the minimal domain of an L-related head. The  $\pm$ L-related distinction replaces the A/A' distinction of the Principles and Parameters framework. Since the positions associated with C are A'-position, we must take C to be non-L-related. Therefore, C must not be assigned a feature value by F(v), but by T.

<sup>15</sup> The only tensed embedded clauses without overt complementizer are relative clauses. These do show complementizer agreement in the relevant dialects (see (102)-(103) in chapter IV). We will discuss these cases in chapter section VII.2.1.

features. These features have to be spelled out by the postsyntactic component Morphology.

Consider now the position of the F-features of the verb in (23). A condition on F-features is that they must be combined with LC-features in order to be spelled out by Morphology. In (23), the LC-features are produced by the complementizer in C. There is no need, then, to resort to movement of the LC-features of the verb in order to ensure a proper interpretation of the F-features of the verb by Morphology.

Morphology will simply spell out (23) as a complementizer. In Standard Dutch, the Lexicon has only one form for each type of complementizer, and Spell Out will be straightforward. In complementizer agreement dialects, there must be a paradigm of complementizers. In that case, the agreement value of AgrS in C in (23) will be crucial for the selection of the proper form from the complementizer paradigm.

Thus, the LC-features of the verb do not move in overt syntax, as the F-features of the verb find refuge in C. The verb itself, therefore, will be spelled out in the V-position, explaining the absence of verb movement in embedded clauses in Dutch.

Notice that the verb in embedded clauses is not spelled out as an infinitive or as a bare stem (cf. (2a)). Thus, the F-features of the verb must still be present in the V-position, in spite of the fact that the F-features move to C. This, however, follows trivially if we assume, with Chomsky (1993:35), that the trace left behind by movement is really a copy of the moved element. Therefore, the morphosyntactic object in V looks like (24) (where copies are indicated by angled brackets):

$$(24) \quad \begin{array}{c} V \\ \wedge \\ \langle F(v) \rangle \quad LC(v) \end{array}$$

Morphology will replace V in (24) by a verb form from the relevant paradigm, with the copy of the F-features determining which form to select.

## 2.5 Conclusion

In this section I have argued for the following points:

1. Verb movement is in complementary distribution with AgrS-to-C movement.
2. In embedded clauses, the F-features of the verb move successive cyclically via AgrO, T, and AgrS to C.



3. Complementizer agreement is a language particular morphological reflex of a more general process of movement of T (in AgrS) to C, triggered by the need for C to be assigned a value for tense.
4. As a result of AgrS-to-C movement, the F-features of the verb are spelled out on the complementizer; the LC-features of the verb are spelled out in C.

Hence, the absence of verb movement in embedded clauses in Dutch follows from the analysis of verb movement as consisting of F-movement and LC-movement, and from the assumption that LC-movement is a Last Resort operation, needed to create morphologically interpretable objects only.

### 3 Subject Initial Main Clauses

#### 3.1 Feature Movement in Subject Initial Main Clauses

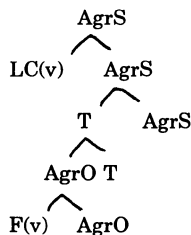
The analysis of verb movement in subject initial main clauses in Dutch (cf. (1)) now follows straightforwardly.

Recall from section 1 that there is no reason to assume that subject initial main clauses project a CP level on top of AgrSP (cf. Figure 1). A minimalist hypothesis then is that AgrS is the highest functional projection in subject initial main clauses.

The derivation of the subject initial main clause (1a) now starts off exactly as the embedded clause (2a). The F-features of the verb move successive cyclically via AgrO and T to AgrS, yielding the morphosyntactic object in (22).

Since there is no complementizer for AgrS to move to, the F-features of the verb end up in a morphosyntactic complex without LC-features. Such a complex cannot be interpreted by Morphology. Therefore, the LC-features of the verb move and adjoin to AgrS, creating the morphosyntactic object in (25):

(25)



In (25), the F-features and LC-features of the verb are united in a single morphosyntactic object. As before, we assume that the features of the terms of AgrS end up in the label of AgrS. As a result, the top AgrS in (25) is interpretable by Morphology. The LC-features determine a paradigm, and the F-features select a form from the paradigm.

Movement of the F-features and LC-features of the verb leaves a morphosyntactic object in V consisting of copies (traces) only:



The question arises why (26) is not spelled out as a verb. I have nothing interesting to offer here. Apparently, Morphology does not spell out more than one copy of LC-features (a standard assumption also in previous approaches). It is generally assumed that the spelled out copy is the higher copy. Let us formulate this as follows:

- (27) Morphology spells out the highest morphosyntactic object containing a particular set of LC-features.

### 3.2 Subject Agreement

Recall that I have proposed that in Dutch the N-features (NP-features) and the V-features of AgrS are strong, triggering movement in overt syntax (21). I have also adopted the standard assumption that subject-verb agreement is formally expressed in a specifier-head agreement relation, mediated by a functional head, AgrS. Therefore, the verb (i.e. the F-features and the LC-features of the verb) and the subject move to positions in the checking domain of AgrS.

In chapter V, I argued that the checking domain of a head  $\alpha$  is to be defined in terms of the derivational history of  $\alpha$ . First,  $\alpha$  cannot enter the derivation without merging with a complement first. The operation Merge yields a Projection of  $\alpha$ , and I took  $\alpha$  and its Projection to form a unit, in the sense that they share features. Second, I proposed to define the checking domain of  $\alpha$  in terms of the operation Merge. Thus,  $\alpha$  is in the checking domain of  $\beta$  only if  $\alpha$  and  $\beta$  merge.

Taken together, these two assumptions yield two different checking domains associated with a head  $\alpha$ : the sister of  $\alpha$ , and the sister of the Projection of  $\alpha$ . The first checking domain is created by adjoining a head to  $\alpha$ , in the process of V-feature checking. The second checking domain is created by adjoining a specifier to the Projection of  $\alpha$ , in the process of N-feature checking.

The reformulation of feature checking as feature value assignment leaves these configurational restrictions unaffected. Thus,  $\alpha$  assigns a value to  $\beta$  only if  $\alpha$  merges with  $\beta$ . In other words, both feature checking and feature value assignment are subject to the following condition on licensing relations (Zwart (1993b:373):

- (28) Licensing relations are sisterhood relations.

It follows from the special relation between a head and its Projection proposed here, that a subject can only assign an agreement value to the Projection of AgrS, AgrSP. That is, AgrSP is the designated locus for subject licensing.

More generally, an agreement relation between a head  $\alpha$  and a specifier of  $\alpha$  can only be established between the specifier and the Projection of  $\alpha$ .

These considerations are relevant for the analysis of the asymmetry between weak subjects and weak objects in Dutch, discussed by Travis (1984) for German (facts from (6), repeated here for convenience):

- (29) a.        **Ze**            **heeft Jan gekust**  
               she-SCL    has    John    kissed  
               "She kissed John."  
       b.        \* **'r**            **Heeft Jan gekust**  
               her-OCL    has    John    kissed  
               "John kissed her."

As can be seen, weak object pronouns cannot appear in sentence initial position (29b), whereas weak subject pronouns can (29a). In the analysis of Travis (1984), these facts indicate that the sentence initial position in subject initial main clauses has a different status from the sentence initial position in inversion constructions.

The difference follows naturally if we assume that the sentence initial position in (29a) is an A-position (an L-related position), i.e. a position in which subject-verb agreement is established, whereas the sentence initial position in (29b) is an A'-position (a non-L-related position), which can only be reached under specific conditions of topicalization or focalization. Travis (1984) concludes from this contrast that (29a) is an IP (AgrSP), whereas (29b) is a CP, an analysis supported in this book.

However, Holmberg (1986), Rizzi (1991), and Vikner and Schwartz (1996) have suggested a different approach to the facts in (29).<sup>16</sup> The approach involves a relativized definition of A/A' position. In particular,

<sup>16</sup> In the discussion, I address Rizzi's (1991) analysis in particular.

Rizzi (1991) proposes the following definition of A-position, where [Agr] refers to agreement in  $\phi$ -features:

- (30)            A-positions:    (i)    Theta positions  
                                          (ii)   Specifiers of a [+Agr] X°

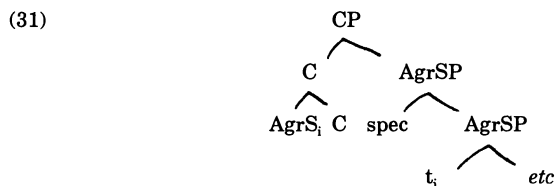
Rizzi then argues that (ii) should be interpreted “as meaning that a Spec is A when *construed* (coindexed) with an Agr specification in its head. The subject agrees with I at the IP level, then if subject and I are moved to the CP level (...), the spec of C will agree with C containing I, and will count as an A-position under ([30])(ii).”<sup>17</sup>

Thus, the subject-verb agreement relation can be recreated in CP, when both the verb and the subject move to CP. This makes it possible to analyze both (29a) and (29b) as CPs, as in the traditional analysis of verb movement in Dutch.

Chomsky (1993:47 note 33) notes that the definition of A-positions in (30) is problematic:<sup>18</sup> “Note that if I adjoins to C forming [<sub>C</sub> I C], [Spec,C] is in the checking domain of the chain (I,*t*). Hence [Spec,C] is L-related (to I), and non-L-related (to C). A sharpening of notions is therefore required to determine the status of C after I-to-C raising.”

This sharpening of notions is provided by the theory of feature checking proposed here. In particular, I have proposed that a subject can only be in an agreement relation with a functional head  $\alpha$  if it is in a sisterhood relation with the Projection of  $\alpha$ . This follows from the general condition on licensing relations (28).

Consider what happens when AgrS moves to C, creating the structure in (31):



As can be seen, moving AgrS to C does not change the configuration in which the subject can be licensed. The sisterhood relation between the spec of AgrSP and the AgrSP Projection (the lower AgrSP) remains intact.

<sup>17</sup> Quoted from the abstract for Rizzi (1991), published in *GLOW Newsletter* 26, 46-47.

<sup>18</sup> Chomsky replaces the A/A' distinction with the  $\pm$ L-related distinction (cf. note 14). This is of no consequence to the discussion of the issues that are relevant here.

Adopting (28), we can maintain Rizzi's proposal if we assume that when AgrS moves to C, CP replaces AgrSP as the Projection of AgrS.

But this is clearly incorrect, as the specifier position of AgrSP remains the designated licensing position for the subject in embedded clauses (cf. (2a) and the discussion in section 2). I have proposed that in embedded clauses, AgrS moves to C. But this does not turn the specifier position of CP into a licensing position for the subject, as the following example shows:

- (32)      \* ..dat    ik denk Jan    dat    Marie    kust  
               that    I think John    that    Mary    kisses  
               "..that I think that John kisses Mary."

There is no empirical reason to believe, then, that AgrS-to-C movement turns the specifier of CP into a derived licensing position for the subject.

But there is also a conceptual argument against the idea that CP can be redefined as the Projection of AgrS in (31). Recall the discussion in section V.3.1.3 of projection of features in adjunction structures. I argued that the label of a head  $\alpha$  (in a head adjunction structure) unifies the features of the terms of  $\alpha$ . In section V.3.3 I suggested that this unification property of head adjunction structures results from the process of feature value assignment: a head  $\alpha$  attracts a feature  $\beta$ , which, after adjoining to  $\alpha$ , assigns its feature value to  $\alpha$ .

One of the effects of feature value assignment is that adjunction of a verb to C yields a complex that will be interpreted by Morphology as a verb. In terms of feature movement, if the LC-features of a verb adjoin to C, the value of the LC-feature is assigned to (copied onto) C, so that C will be interpreted as the verb corresponding to the relevant LC-features.

Crucially, however, the feature unification (feature value assignment) that takes place inside the head adjunction structure  $\alpha$  does not affect the status of the Projection of  $\alpha$ . Thus, even if C is adjoined to by (the LC-features of) a verb, and will be interpreted as a verb by Morphology, the projection of C will still be interpreted as a CP, not as a VP. Thus, the feature specification of CP is fixed at the moment CP is created, namely when C is merged with its complement.<sup>19</sup>

We can make the conceptual argument even stronger. Suppose C, and the Projection of C, inherits all the features of the head adjoined to C,

<sup>19</sup> Here again the distinction between features and feature values is relevant. AgrSP (the Projection of AgrS) shares the features of AgrS, but not the features of heads adjoined to AgrS. But the value assigned to AgrS by the head adjoined to AgrS is automatically also assigned to AgrSP. Otherwise, the feature value of AgrS (in particular, the feature that is relevant for the proper pairing of the subject and the verb, see section V.3.3) would not be part of the label of AgrSP, and AgrSP would be uninterpretable at LF.

AgrS, including the need to be assigned a feature value by the subject (cf. (31)). This would turn Spec,CP into a Projection of AgrS, a derived licensing position for the subject, as proposed by Rizzi (1991). However, AgrS has the structure in (22). It contains at least two other heads, AgrO and T. If C inherits the features of AgrS in (31), we cannot exclude that T inherits the features of AgrO in (22), or that AgrS inherits the features of T and AgrO, or, by consequence, that C inherits the features of AgrS, T, and AgrO. If so, the specifier position of CP would become a derived checking position for the N-feature of all functional heads in the adjunction structure in (22). This amounts to saying that practically any feature can be checked anywhere, clearly a situation we wish to avoid in a restrictive theory of feature checking and word order variation.

Therefore, I propose that adjunction of AgrS to C does not turn CP into a Projection of AgrS. Neither, then, will the specifier position of CP become a derived licensing position for the subject.<sup>20</sup>

In conclusion, the system of feature checking and movement adopted here designates Spec,AgrSP as the (highest) licensing position for the subject. The only way a subject can move to Spec,CP is when it has additional features (such as a *wh*-feature) that are attracted by a higher functional head.

It follows that the verb in subject initial main clauses in Dutch does not occupy C but AgrS.

#### 4 V-to-C Movement

In this section I will discuss arguments for generalized V-to-C movement in main clauses in Dutch. We will see that these arguments dissolve under the approach to movement and feature checking adopted here. The arguments are mainly drawn from Den Besten (1977:*passim*), Holmberg (1986:94ff), Tomaselli (1990:25f), Vikner (1995:42f), and Thráinsson (1991).

<sup>20</sup> Chomsky (1993:31) employs the idea that head movement of T to AgrS turns Spec,AgrSP into a derived checking position for the subject in English. Since English Agr has weak N-features (i.e., English does not have overt object shift), subject placement must be related to a strong N-feature of T. But the subject appears in the specifier position of AgrSP. On the assumption that T moves to AgrS (Chomsky 1993:7), the position of the subject follows if head movement to AgrS turns Spec,AgrSP into a derived checking position for the subject. This analysis is abandoned in Chomsky (1995), where the English subject is taken to occupy one of the (multiple) specifier positions of T. In our approach, the problem remains. See Zwart (1993b:228) for discussion.

As discussed in section II.3.2, some of the more familiar arguments merely show that the verb is in C in inversion constructions.<sup>21</sup> These are not arguments for generalized V-to-C movement. I will therefore leave them out of the discussion. For the moment, I will accept these arguments as showing that the verb moves to C in inversion constructions.<sup>22</sup>

The following phenomena have been argued to support generalized V-to-C movement in Dutch and related languages:

1. The finite verb is not fronted in embedded clauses
2. The fronted verb and the complementizer show the same distributional effects
3. Narrative inversion
4. Auxiliary deletion in Swedish

These phenomena will be discussed in the following subsections. It will turn out that they do not support the hypothesis that the verb moves to C in all main clauses in the relevant languages.

#### a. The finite verb is not fronted in embedded clauses.

This is the familiar verb movement asymmetry discussed in this chapter. The existence of the asymmetry is an argument for generalized V-to-C movement only if C is the only functional head to the left of the VP. The presence of other functional heads to the left of the VP cannot be *a priori* excluded, however. Therefore this phenomenon is irrelevant.

The following phenomenon from German is often quoted in this context (repeated from II.2.2):

- (33) a. **Peter behauptet, daß Johann Maria küsse**  
           Peter claims           that John     Mary   kisses-SUBJ
- b. **Peter behauptet, Johann küsse Maria**  
           Peter claims           John     kisses-SUBJ Mary  
           "Peter claims that John kisses Mary."

If the complementizer is absent, the verb is fronted.

However, in spite of what is usually claimed, it is not immediately obvious that the complementizer *daß* in (33a) and the verb *küsse* in (33b) are in the same position. In (33a), the complementizer precedes the subject *Johann*, but in (33b) the subject precedes the verb.

These word order facts follow from our analysis, on the assumption that German has the same interaction of AgrS-to-C movement and V-to-AgrS movement as Dutch. In both (33a) and (33b) the subject moves

<sup>21</sup> Cf. Den Besten 1977 (1989:25).

<sup>22</sup> See chapter VII for more discussion.

to the spec of AgrSP. This movement is triggered by the strong N-feature of AgrS. In (33a), AgrS (including T and the F-features of the verb, see (22)) moves to C, so that the F-features of the verb are in a morphosyntactic complex that is interpretable by Morphology. No movement of the LC-features of the verb is required.

If the interaction between AgrS-to-C movement (movement of the F-features of the verb to C) and V-to-AgrS movement (movement of the LC-features of the verb to AgrS) as described here is correct, it must be the case that there is no AgrS-to-C movement in (33b).<sup>23</sup> If so, the F-features of the verb are left stranded in AgrS, and must be picked up by the LC-features of the verb. Hence the overt verb movement in (33b).

This explains why the verb appears to the right of the subject in (33b), while the complementizer position is to the left of the subject, as (33a) shows.

This analysis is further supported by the observation that embedded verb movement and complementizer agreement never go together, as illustrated in (10). Again, embedded verb movement can be described as the absence of AgrS-to-C movement, a generalization that is missed in the generalized V-to-C movement analysis.

#### **b. The fronted verb and the complementizer show the same distributional effects.**

The phenomenon I have in mind here figures in a classic argument in Den Besten (1977:25f), which is already present in Paardekooper (1961). Paardekooper and Den Besten show that subject clitics in Dutch must be adjacent to both the complementizer and the fronted verb:

- (34) a.    **..dat**    **je**       **gisteren**   **ziek**   **was**  
           that    you   yesterday   ill     were  
           "..that you were ill yesterday."  
       b.    \* **..dat**   **gisteren**   **je**   **ziek**   **was**  
           that    yesterday   you   ill     were
- (35) a.    **Waarom**   **was**   **je**       **gisteren**   **ziek?**  
           why     were   you   yesterday   ill  
           "Why were you ill yesterday?"  
       b.    \* **Waarom**   **was**   **gisteren**   **je**   **ziek?**  
           why       were   yesterday   you   ill

Den Besten's conclusion was that the fronted verb in (35) is in the same position as the complementizer in (34).

<sup>23</sup> There appear to be two ways of excluding AgrS-to-C movement in (33b). Either the feature triggering T-to-C movement is weak (or absent), or C itself is absent. See section 5 for more discussion.



However, we cannot conclude from this paradigm alone that the fronted verb is always in the complementizer position. This can only be concluded if the order *verb-subject clitic* shows up in neutral main clauses as well. As (36) shows, this is not the case:

- (36) a. \* **Was je gisteren ziek** (declarative)  
           were you yesterday ill  
           "You were ill yesterday."  
       b. **Je was gisteren ziek**  
           you were yesterday ill  
           "You were ill yesterday."

If anything, the distribution of the subject clitics in Dutch shows that the fronted verb is *not* always in the complementizer position.

Conversely, it is easy to show that the complementizer and the verb do not display the same distributional effects in a number of cases. For example, subjects immediately precede the verb in neutral order clauses in Dutch, but are not allowed to precede the complementizer:

- (37) a. **Jan (\*altijd) kust Marie**  
           John always kisses Mary  
       b. \* **..Jan dat Marie kust**  
           John that Mary kisses  
           "..that John kisses Mary."

Similarly, topics immediately precede the verb in topicalization constructions, but are not allowed to precede the complementizer:<sup>24</sup>

<sup>24</sup> In colloquial Dutch, constructions like (i) can be heard every now and then. According to my intuition, the verb has to appear between the preposed adverb and the complementizer in embedded clauses (ii). If so, (i) should presumably be analyzed as long distance scrambling rather than as movement to Spec,CP. (See Van den Berg 1992 for possibly related constructions in Middle Dutch.)

- (i) **Ik dacht morgen dat je zou komen**  
       I thought tomorrow that you would come  
       "I thought that you would come tomorrow."  
       (ii) **..dat ik morgen dacht dat je zou komen**  
           that I tomorrow thought that you would come  
           "..that I though that you would come tomorrow."

- (38) a.     **Honden**   **(\*altijd)** **bijt** **Jan**   **(altijd)**  
           dogs       always   bites John   always  
           "Dogs, John always bites."  
       b.     \*   **..honden** **dat** **Jan** **altijd**   **bijt**  
               dogs       that   John   always   bites  
               "..that John always bites dogs."

(37b) is puzzling on the traditional assumption that the complementizer takes over the Nominative Case assigning property of the verb in embedded clauses. In that case, it is unclear why the verb would assign Case under spec-head agreement in (37a), whereas the complementizer apparently cannot assign Case under spec-head agreement in (37b).

In the analysis proposed here, the subject is always assigned Case (more accurately, always assigns a feature value) in a sisterhood configuration in AgrSP. This excludes (37b), on the assumption that the complementizer is in C.

(38b) apparently demonstrates that topics cannot be in the specifier position of CP when C is occupied by a complementizer. Since I have chosen to adopt Den Besten's analysis of topicalization as involving verb movement to C, (38b) is as much a problem for my analysis as it is for the traditional analysis. The problem disappears if topics must be sentence initial satellites, as proposed in section VII.1.1.

All other constructions in which the fronted verb and the complementizer show a parallel distribution are inversion constructions. These involve counterfactuals (39), conditionals (40), and imperatives (41):

- (39) a.     **Was**   **jij**    **op tijd**   **gekomen, ...**  
           were   you   on time   come  
           "Had you been on time, ..."  
       b.     **Als**    **jij**    **op tijd**   **gekomen was, ...**  
           If     you   on time   come was  
           "If you had been on time, ..."
- (40) a.     **Ben**    **je**    **op tijd, ...**  
           are    you   on time  
           "If you are on time, ..."  
       b.     **Als**    **je**    **op tijd**   **bent, ...**  
           if     you   on time   are  
           "If you are on time, ..."
- (41) a.     **Wees**   **jij**    **nou eens**   **op tijd!**  
           be     you   now once   on time  
           "Be on time for a change!"  
       b.     **Dat**   **jij**    **nou eens**   **op tijd**   **bent!**  
           that   you   now once   on time   are  
           "Make sure you are on time for a change!"

All these constructions have no non-inverted counterpart. Therefore, they are useless if we want to find out whether the verb moves to C always.

### c. Narrative inversion.

Den Besten (1977; 1989:32) notes the existence in Dutch of constructions with the verb in the first position (42.2):

- (42) 1.     **Afijn, ik       naar die vent toe.**  
           so       I       to that guy *prt*  
       2.     **Begint-ie me   toch een verhaal   op te hangen**  
           starts-he   me   *modal* a story       on to hang  
       2'.    # **Hij begint   me   toch       een verhaal   op te hangen**  
           he starts       me   *modal*   a story       on to hang

"So I went over to this guy, and he starts to tell me a (crazy) story (you wouldn't believe it)."

As Den Besten indicates, this construction is particularly used in a certain narrative style of spoken Dutch, and is extremely effective in telling a story or a joke. Narrative inversion does not occur in complement clauses.

Den Besten analyzes the inversion in (42) as verb preposing (to C) without XP-preposing (to the spec of CP). It is unclear, however, why XP-movement is suppressed in this construction, and how the lack of XP-movement is related to the special character of this construction.

Let us follow Den Besten in assuming that the verb in the inverted construction in (42) is in C. If so, the order Verb-Subject is not unexpected in our analysis, since we have assumed that the subject always moves to the spec of AgrSP. The marked character of the inversion in (42) can then be analyzed as an additional movement of the verb to C.<sup>25</sup>

At this point, there are two possibilities. Either there is an empty element in the specifier of CP in (42.2) which triggers the verb movement (see section VII.1.1), or there is no such empty element, and (42.2) is a kind of 'verb topicalization'.

Verb topicalization without a triggering element in spec,CP would be strange from a minimalist point of view, since functional heads are taken to be mediators in grammatical relations. It is not clear why C would be merged with AgrSP if not to create a configuration in which an element in spec,CP could be licensed.

Verb topicalization, then, could only take place if C hosted a particular V-feature which is strong in these constructions only. This would make a

<sup>25</sup> The subject in the inversion construction is a clitic, which on our assumptions does not occupy the specifier position of AgrSP. This is irrelevant here, since the clitic can be replaced by a full noun phrase, and the verb-clitic order in itself also demonstrates verb movement.

very *ad hoc* analysis.<sup>26</sup> Verb movement in narrative inversion constructions generally does not show specific intonational features on the fronted verb. This also makes an analysis focusing on properties of the verb alone doubtful.

An analysis involving an empty operator triggering movement to Spec,CP in narrative inversion constructions appears to be more promising.

First, as Den Besten (1977;1989:33) observes, certain narrative inversion constructions come close to being conditional or concessive constructions:

- (43) **Hield Jan van Marie, Marie zag meer in Piet**  
 held John of Mary Mary saw more in Pete  
 "Although John loved Mary, Mary liked Pete better."

The particular flavor of these constructions suggests the presence of an operator, just like in the conditional and counterfactual constructions (39-40).

Constructions like (43) can even be supplemented with a sentence initial element *al* or *ook al* (best translated as 'if' and 'even if'):<sup>27</sup>

- (44) **(Ook) al hield Jan van Marie, Marie zag meer in Piet**  
 also if held John of Mary Mary saw more in Pete  
 "Even though John loved Mary, Mary like Pete better."

The element (*ook*) *al* can be modified by *zelfs* 'even':

- (45) **Zelfs (ook) al hield Jan van Marie, ...**  
 even also if held John of Mary  
 "Even if John loved Mary, ..."

This suggests that (*ook*) *al* is a phrasal element and not a head. If so, this could be the element in spec,CP triggering verb movement in the familiar way (see chapter VII). In that case, (43) can be derived from (44) by a kind of *topic drop* (cf. Cardinaletti 1990).

Following Cinque (1990), Cardinaletti (1990:78) argues that topic drop involves an empty operator binding a pronominal variable. The construction is only possible if the operator is "sanctioned by the preceding discourse or by pragmatics".

<sup>26</sup> I assumed such an analysis in Zwart (1991a:79).

<sup>27</sup> *Ook* 'also' is used as a concessive particle in constructions like *al schreeuwden ze ook nog zo hard* 'even if they yelled as hard as they could'.

'Sanctioning by preceding discourse or pragmatics' appears to be generally possible in standard cases of narrative inversion like (42). (42.2) inevitably conveys the information that the two actions described are contiguous, and presumably also causally related. (42.2') characteristically lacks this information. We could describe the narrative inversion in (42.2) as containing an empty operator in the specifier of CP, which is interpreted as indicating contiguity.<sup>28</sup>

In the present tense, narrative inversion constructions are ambiguous between a conditional and a non-conditional reading:

- (46)           **Speel ik een aas, speelt mijn partner troef**  
                   play I an ace plays my partner trump

(46) means: everytime I play an ace, my partner always trumps, or: when I played an ace, my partner trumped. The conditional interpretation is forced when an adverb like *altijd* 'always' is added in the second clause; likewise, adding a temporal adverb like *opeens* 'suddenly' biases the temporal interpretation:

- (47) a.       **Speel ik een aas, speelt mijn partner altijd troef**  
                   play I an ace plays my partner always trump  
                   "Everytime I play an ace my partner always trumps."  
       b.       **Speel ik een aas, speelt mijn partner opeens troef**  
                   play I an ace plays my partner at once trump  
                   "I played an ace. Then suddenly my partner trumped."

In both cases, the adverb *dan* 'then' can be used to introduce the second clause:

- (48) a.       **Speel ik een aas, dan speelt mijn partner altijd troef**  
                   play I an ace then plays my partner always trump  
                   "Everytime I play an ace, my partner always trumps."  
       b.       **Speel ik een aas, dan speelt mijn partner opeens troef**  
                   play I an ace then plays my partner suddenly trump  
                   "I played an ace. Then my partner suddenly trumped."

<sup>28</sup> Den Besten (*loc.cit.*) also remarks that narrative inversion constructions make a great opening for a story. My intuition about this is that if a story is opened with a narrative inversion construction, this is always an adjunct clause. The opening sentence has a temporal or a conditional interpretation, also captured with the more formal *als* 'if, when' and, in the past tense, *toen* 'when'. Thus, Den Besten's example *ging ik laatst naar De Swart* [went I *adv* to De Swart] 'when I went to De Swart the other day' can be translated with *toen ik laatst naar De Swart ging* 'when I *adv* to De Swart went'. Crucially, in both cases the opening sentence must be followed by what looks like the main clause, *raakte ik aan de praat met die advocaat* 'got I into a chat with that lawyer'. The narrative inversion opening is subordinate to the following clause in the same way as the subordinated opening would be.

The interpretation of *dan* is consecutive in (48a), and temporal in (48b). This suggests that in (47) an empty *dan* is present, the interpretation of which is determined contextually. Likewise, it appears reasonable to assume that there is an empty operator present in the first clause, receiving a conditional or temporal interpretation by the same mechanism.

Second, the presence of an empty operator can be concluded from the fact that narrative inversion constructions do not allow (additional) topic drop phenomena (cf. Cardinaletti 1990). Thus, (49a) cannot be shortened to (49b), without loss of the narrative inversion interpretation:

- (49) a.     **Sla     ik die vent voor zijn bek**  
           strike I   that guy for his mouth  
           "So I knock this guy in the face."  
       b.     **Sla     ik voor zijn bek**  
           strike I   for his mouth  
           "I will knock (him) in the face."

(49b) is only grammatical as a topic drop construction of the type studied in Huang (1984). Following Huang, the interpretation of the empty object pronoun is mediated by an empty operator, which is discourse bound. Crucially, (49b) lacks all the properties of narrative inversion: it cannot be used in story telling, and there is no expression of contiguity. (49b) connects to a discourse situation in which a certain person is saliently present, not to an immediately preceding situation, like in narrative inversion constructions. Consequently, (49b) is preferably used as an answer to a question like *What will you do about that guy?*.

On the standard assumption that the specifier of CP can host only one operator, the absence of the narrative inversion interpretation in (49b) follows immediately. This explanation is not available if narrative inversion does not involve an empty topic/operator in CP.

To summarize, narrative inversion is characterized by the presence of an empty operator in the specifier position of CP.<sup>29</sup> This empty operator is interpreted contextually, and gives the narrative inversion construction

<sup>29</sup> I will not be concerned with the question what the empty operator binds. The analysis of narrative inversion here shares certain aspects with the analysis of imperatives in Beukema and Coopmans (1989) and Den Dikken (1992). Curiously, it appears to be the case that the empty operator facilitates parasitic gap interpretation. (i) is surprisingly good, on a par with (ii), from Den Dikken (1992):

- (i)           **Leg       ik [zonder pg in te kijken]   dat boek   weg**  
           put     I   without pg in to look   that book   away  
           "I put down the book without looking at it."  
       (ii)     **Leg       [zonder pg in te kijken]   weg    dat boek!**  
           put     without pg in to look   away   that book  
           "Put down that book without looking at it!"

its special flavor. As will become clear in chapter VII, operators in the spec of CP always trigger movement of the finite verb to C.

Thus, the special character of narrative inversion is not explained by the lack of XP-movement to spec of CP, but by the presence of an empty element in the spec of CP triggering verb movement to C. What is special about narrative inversion is not the position of the subject, but the position of the verb.

The absence of narrative inversion in complement clauses now ties in with the general observation that topics are not allowed to precede the complementizer in Dutch (see (38)).

If this is correct, narrative inversion cannot be presented as an argument for general V-to-C movement in Dutch.

#### d. Swedish *ha*-deletion.

Swedish shows the same pattern of verb movement as Dutch with respect to the asymmetry between main and embedded clauses. In subject initial main clauses and in topicalizations and *wh*-constructions, the finite verb is in the second position. In embedded clauses, the verb is further to the right.

In section 5.1, I will argue that in Swedish, this verb movement asymmetry is due to the same interaction of AgrS-to-C movement and V-to-AgrS movement as in Dutch. Thus, in subject initial main clauses in Swedish, the verb is again not in C but in AgrS.

This makes it possible to address here another argument advanced in the literature to support the hypothesis that the finite verb moves to C in all main clauses of Dutch, Swedish, and related languages (Den Besten 1977, Platzack 1986, Holmberg 1986).

In Swedish, the auxiliary *ha* 'have' is optionally deleted in embedded clauses, but not in matrix clauses:

- (50) a.    **..att    han (har) varit    sjuk**  
           that   he    has   been    ill  
       b.    **Han    måste   (ha) varit sjuk**  
           he    must    have been ill  
       c.    **Han    \*(har)    varit sjuk**  
           he    has    been ill  
       d.    **\*(Har) han    varit sjuk?**  
           has    he    been ill

Platzack (1986) and Holmberg (1986) both advocate an analysis of this phenomenon in which auxiliary deletion is the default case. This makes the non-deletion in (50c,d) the marked case.<sup>30</sup>

<sup>30</sup> Thus, preserving the Penthouse Principle, contra Andersson and Dahl (1974).

Platzack (1986) stipulates that the auxiliary can be deleted unless the auxiliary is in C. This suffices if the verb is in C in both (50c) and (50d). The simplicity of this rule may count as an argument for generalized V-to-C movement.

Holmberg (1986:176,197) derives Platzack's stipulation from a theory of visibility of empty heads. In particular, Holmberg argues that empty heads that are not properly governed cannot be involved in assigning Case. In main clauses, the verb is involved in Nominative Case assignment (under Holmberg's assumptions, after having moved to C), and the verb is not properly governed. Hence, the verb may not be empty in main clauses.

Importantly, Holmberg's derivation of Platzack's stipulation removes the argument for generalized V-to-C movement in main clauses. If (50c) is not a CP but an IP (or an AgrSP), the verb will not be properly governed, and hence cannot be deleted.

Holmberg's analysis can be transferred to the minimalist framework without problems. I have proposed that verbs in the syntax are bundles of formal features and lexical-categorial features. The phonological features are added in the postsyntactic component Morphology. In this organization of the grammar, a deleted element is probably best characterized as an element that is ignored by Morphology.

If we are correct, the LC-features of the auxiliary move to AgrS in (50c) in order to pick up the F-features of the verb. Therefore, a lexical verb is present in AgrS in the PF output representation of (50c). Apparently, the resulting morphosyntactic object (25) cannot be ignored by Morphology.<sup>31</sup>

In the embedded clause (50a), movement of the LC-features to AgrS is not needed, as the F-features are part of the head adjunction structure in C (containing the LC-features of the complementizer). But the F-features do move, leaving behind a morphosyntactic object that contains a copy of the F-features (see (24)). Apparently, this object can be ignored by Morphology.

Let us say that the copy of the F-features in V are not syntactically active, in the sense that they are not involved in the proper pairing of a verb and a noun phrase. This corresponds to Holmberg's observation that the auxiliary may be deleted if it is not involved in assigning Case.

In (50b), the auxiliary is an infinitival, and arguably is not involved in the proper pairing of a verb and a noun phrase. The facts then follow if we say that in Swedish, a 'verb' (i.e. a morphosyntactic object containing

<sup>31</sup> As will be clear from the discussion in section VII.1, this captures the non-deletability of the auxiliary in inversion constructions as well.



the LC-features of a verb) can be deleted if it is not syntactically active, i.e., not involved in establishing a proper pairing with a noun phrase.<sup>32</sup>

This analysis is independently confirmed when the deletability of auxiliaries in embedded clauses is considered (Holmberg 1986:198). Here, there is a contrast between control infinitivals and Exceptional Case Marking constructions. The auxiliary can be deleted in the latter, but not in the former:

- (51) a. **Det är bra att PRO \*(ha) läst den**  
           it is good to have read it  
       b. **Jag anser honom (ha) varit för passiv**  
           I consider him have been too passive  
           "I consider him to have been too passive."

In the Exceptional Case Marking construction (51b), the embedded subject *honom* is licensed in an AgrOP in the matrix clause (cf. III.2.1.3.c). Thus, the auxiliary *ha* is not involved in checking the features of the embedded subject, and can be ignored by Morphology.

In the control construction (51a), PRO must be licensed in the embedded clause. Chomsky and Lasnik (1993) argue that PRO must be licensed (i.e. a proper pairing must be established) in a specifier-head configuration, like all other arguments of the verb. PRO differs from lexical arguments in that it has 'Null Case'.

Since PRO is not interpreted by Morphology, we may assume that 'Null Case' is not checked in overt syntax but in covert syntax. Consequently, the F-feature of the auxiliary involved in licensing PRO need not move until after the Spell-Out point. This means that the 'verb' in V does not contain a copy of its F-features, but the F-features themselves. The auxiliary, therefore, cannot be ignored by Morphology.

In conclusion, Holmberg's (1986) analysis of auxiliary deletion can be transferred in the minimalist approach adopted here without problems. This analysis does not link auxiliary deletion to V-to-C movement, and therefore cannot be used to support the hypothesis that the verb moves to C in all main clauses in languages showing the verb movement asymmetry of Dutch.

<sup>32</sup> Obviously, there is more to it, since other infinitives and verbs in embedded clauses cannot be deleted. The fact that the auxiliary appears in a configuration with a past participle is presumably also crucial to the analysis.

## 5 Some Further Issues

In this section, I will discuss three other issues in connection with the verb movement analysis presented above.

First, the question arises whether the analysis of the verb movement asymmetry in Dutch can be applied to all (Germanic) languages showing the verb movement asymmetry. I will argue that it can (section 5.1).

Second, the syntax of embedded verb movement constructions must be described in terms of the analysis presented here. I will argue that in embedded verb movement constructions, no AgrS-to-C movement takes place (section 5.2).

Finally, the analysis of verb movement presented here clears up an issue regarding "Holmberg's Generalization." According to this generalization, overt object movement is possible only if there is overt verb movement. Dutch (as well as German and Frisian) are problematic for that generalization, since in embedded clauses, the object moves, but the verb remains in situ. This problem disappears if Holmberg's Generalization is formulated in such a way that it refers to F-movement, not to LC-movement.

### 5.1 The Verb Movement Asymmetry in Other Germanic Languages

In this chapter, I have proposed an analysis of the verb movement asymmetry in Dutch that does not make use of the traditional assumption that the finite verb moves to C in all main clauses in Dutch. In both main and embedded clauses, the formal features of the verb move to AgrS, via AgrO and T (and other functional heads, if present). In embedded clauses, the F-features move on to C, making movement of the LC-features of the verb unnecessary. In main clauses, there is no CP level, and the LC-features of the verb move to AgrS in order to create a morphosyntactic object that is interpretable by Morphology. Thus, not C but AgrS is the pivot in the explanation of the verb movement asymmetry.

This analysis is most clearly supported in the complementizer agreement dialects of Dutch, in which AgrS-to-C movement has an overt morphological reflex. I have argued, however, that AgrS-to-C also takes place in dialects of Dutch which do not show complementizer agreement, and that the analysis of the verb movement asymmetry involving an interaction of AgrS-to-C movement and verb movement to AgrS carries over to these dialects. Foremost among these dialects, of course, is Standard Dutch.

The strongest hypothesis now appears to be that AgrS-to-C movement explains the verb movement asymmetry in all Germanic languages that

display it. Conversely, the absence of such an asymmetry ought to follow from the lack of AgrS-to-C movement.

The Germanic languages that show the relevant asymmetry are Dutch, German, Frisian, and the Mainland Scandinavian languages (Danish, Norwegian, Swedish). This is illustrated in (52)-(55).<sup>33</sup>

- (52) a. **Johann küßt Maria** German  
           John kisses Mary  
       b. **..daß Johann Maria küßt**  
           that John Mary kisses  
           "..that John kisses Mary."
- (53) a. **Ik sjoch in hynder** Frisian  
           I see a horse  
       b. **..dat ik in hynder sjoch**  
           that I a horse see  
           "..that I see a horse."
- (54) a. **Han kommer ikke** Danish, Norwegian  
           he comes not  
           "He's not coming."  
       b. **..fordi han ikke kommer**  
           because he not comes  
           "..because he's not coming."
- (55) a. **Han har inte varit sjuk** Swedish  
           he has not been ill  
       b. **..att han inte har varit sjuk**  
           that he not has been ill  
           "..that he hasn't been ill."

The Germanic languages that do not show the relevant asymmetry are Icelandic, Yiddish, and English.<sup>34</sup>

The analysis of Dutch carries over without problems to the other Continental West Germanic languages, German and Frisian. However, it has been argued that the Mainland Scandinavian languages (Swedish, Danish, and Norwegian) are different.

For one thing, only (dialects of) Dutch, German and Frisian show complementizer agreement. In the Mainland Scandinavian languages no vestige of complementizer agreement has been attested in the literature.

<sup>33</sup> The Mainland Scandinavian facts are taken from Malling (1979), Ten Cate-Silfwerbrand (1973), Haugen (1937), unless indicated otherwise. The Frisian facts are adapted from Reuland (1990a).

<sup>34</sup> On Faroese, see Vikner (1993), Jonas (1995). Since Faroese has been reported to show mixed properties, I will keep it out of the discussion here.

For another, verbal inflection in Mainland Scandinavian is 'poorer' than in Continental West Germanic (cf. Vikner 1995 for a survey). There is no overt person agreement morphology in the Mainland Scandinavian languages. The present tense paradigm consists of only one form in Danish, Norwegian, and Swedish, ending in *-(e)r*.

For these reasons, one might think that the V-features of AgrS in Mainland Scandinavian are weak, or that Mainland Scandinavian languages lack agreement projections altogether (cf. Thráinsson 1996).<sup>35</sup> But I think that would be the wrong approach.

First, movement of the verb to AgrS and of the subject to the specifier position of AgrSP is triggered by an abstract 'agreement' requirement: the need to establish a proper pairing of the subject and the verb. The agreement projection merely provides the configuration in which this proper pairing can be given structural shape, under the restricted condition of sisterhood. The formal 'subject-of' relation is no less real in Mainland Scandinavian than it is in Continental West Germanic.

Second, one might argue that the 'poor' agreement of the verbal system in Mainland Scandinavian implies that the V-features of AgrS are weak. By the Procrastinate principle, then, F-movement would be postponed until after the Spell-Out point.

However, it proves to be extremely difficult to demonstrate a correlation between 'richness' of agreement and overt verb movement in Germanic (see note 35 and references mentioned there). The fact that it is difficult to come up with a generalization over a relatively small number of languages and dialects suggests that the sought after correlation does not exist.

Many Mainland Scandinavian dialects do show overt person agreement. Some, like the Swedish *Älvdalsmål* dialect, show a full person agreement paradigm in the plural (1PL *-um*, 2PL *-er*, 3PL *-a*) (Platzack

<sup>35</sup> Another difference between Mainland Scandinavian and Continental West Germanic is the surface position of the verb and the object in embedded clauses. The Continental West Germanic show a surface OV order in embedded clauses, the Mainland Scandinavian languages show a surface VO order. In our analysis, this difference results from the presence of overt object movement in Continental West Germanic. In the traditional analysis of Continental West Germanic, IP is head final, and the ('richly' inflected) verb could move to INFL by vacuous movement (see the discussion in chapter II). Verb fronting, in this analysis, is triggered by properties of C in both Mainland Scandinavian and Continental West Germanic. This analysis suggests a distinction between 'V-to-I languages' (Continental West Germanic) and 'non-V-to-I languages' (Mainland Scandinavian), where 'V-to-I' always refers to verb movement in embedded clauses. (In main clauses, V-to-C, which is not related to richness of agreement, obscures the difference.) This sets the stage for a comparison between Continental West Germanic and Mainland Scandinavian in terms of what explains the 'V-to-I' property. The solution is often sought in richness of agreement (Roberts 1993, Rohrbacher 1994, Vikner 1995), but the question is basically misguided, if I am correct.

1988, Vikner 1993). These dialects appear to be typologically of the Insular Scandinavian type.<sup>36</sup> But other dialects that show Mainland Scandinavian syntax have a limited amount of person agreement. For instance, many Norwegian *Midlandsk* dialects show a number distinction in the verbal paradigm, e.g. *Hallingdal* (SG *-a/-e*, PL *-æ*) (Trond Trosterud, p.c.; see also Trosterud 1989, quoted in Vikner 1993).<sup>37</sup>

In addition, the Mainland Scandinavian languages generally do show a morphological difference between finite verb forms and infinitival verb forms. The infinitival ending is *-e* in Danish and Norwegian, and *-a* in Swedish. Infinitivals are generally characterized as lacking tense, although some have argued that tense is also present in infinitival forms (notably Stowell 1981:40f). There is no question, however, that there is an agreement opposition between infinitivals and finite verb forms. This agreement opposition is morphologically encoded in the Mainland Scandinavian languages.

Notice that the proper pairing of subject and verb is dependent on tense. In tensed clauses, the subject can be overt, whereas in nontensed clauses, it must be overt (see also Chomsky and Lasnik 1993). Thus, even if an internal person/number paradigm is absent, the finite verb form in itself does suggest the presence of abstract agreement.

A final piece of support for the idea that agreement is present in Mainland Scandinavian may be found in first language acquisition research. Wexler (1993) shows that children acquiring Germanic pass through a stage where they master agreement and verb movement, but not tense (i.e., not the difference between present and past tense). This holds for both Dutch (an overt agreement language) and Swedish. If Swedish were to lack agreement altogether, we could not express Wexler's findings in a satisfactorily generalizing way. On the other hand, if Swedish does have abstract agreement, we can simply say that at this early stage children acquire abstract agreement (i.e., the notion that the proper pairing of subject and verb requires movement).<sup>38</sup>

<sup>36</sup> Platzack (1988) notes that *Älvdalsmål* does not show the verb movement asymmetry, i.e., the finite verb precedes the sentence adverbials in embedded clauses. According to Levander (1909:133), quoted in Platzack (1988:233), this is the only possible word order in embedded clauses.

<sup>37</sup> Vigeland (1981:87f) also reports the number paradigm in the central *Midlandsk* dialects, especially the *Hallingdal* dialect. However, the endings reported there are slightly different (SG *-(e)*, PL *-a*). Both Vikner (1993) and Vigeland (1981) note that the plural ending in the relevant dialects equals the infinitival ending. Presumably, the differences are only of an orthographic nature.

<sup>38</sup> I assume here that a child masters agreement when it realizes that there is a distinction between finite and non-finite verb forms, even if the child does make mistakes in picking the correct agreement form at that stage.

I will therefore assume that the absence of morphological agreement does not exclude the presence of abstract agreement. Consequently, the Mainland Scandinavian languages can be said to have AgrS-to-C, and the fact that these languages show a similar asymmetry between main and embedded clauses as Dutch and German follows straightforwardly.

Notice that the fact that Mainland Scandinavian languages show the same verb movement asymmetry as Continental West Germanic languages might be considered as an argument against correlating overt F-movement and 'rich' agreement. Since the phenomena are so much alike in both types of languages, the optimal hypothesis seems to be that similar processes are going on, making the correlation with 'richness' of morphology all the more questionable. The alternative would be that Mainland Scandinavian subject initial main clauses are CPs. This analysis would meet all the problems of the generalized V-to-C movement discussed here in connection with Dutch.

If the verb movement asymmetry in Mainland Scandinavian is to be described in terms of AgrS-to-C movement in embedded clauses, the question arises why complementizer agreement is never overt in Mainland Scandinavian.

For the standard languages, which show no person agreement, the answer might simply be that we do not expect agreement to show up on the complementizer when it does not show up on the verb. However, even the dialects that do show a (limited) agreement paradigm never seem to show complementizer agreement.

At this point, it may be relevant to consider the distribution of complementizer agreement in Dutch dialects. The distribution of complementizer agreement of the South Hollandic type among Dutch dialects is studied in E. Hoekstra (1993). The relevant dialects show *number* agreement pattern, where the complementizer ends in *-e* (schwa) when the subject of the embedded verb is plural. Hoekstra observes that this type of agreement is found only when *both* the verbal plural form *and* the nominal plural form end in schwa. When one of the plural forms ends in schwa and the other one in *-en*, complementizer agreement is systematically absent.<sup>39</sup>

Put more generally, it is a precondition for complementizer agreement that the nominal plural forms and the verbal plural forms be identical.<sup>40</sup>

<sup>39</sup> It does not follow from this observation that all dialects in which the plural ending of verbs and nouns are identical show complementizer agreement. This situation also obtains in Standard Dutch, for instance, where complementizer agreement is nevertheless absent.

<sup>40</sup> There are many subregularities and irregularities in the verbal and nominal paradigm that we have to abstract away from here. The relevant agreement paradigm is always the default agreement paradigm. The irregularities can be ignored if we state that a precondition for  
(continued...)

Another precondition for complementizer agreement, Hoekstra notes, is that there be a morphological opposition between singular and plural in the verbal paradigm.

These preconditions for complementizer agreement appear to be absent in the Mainland Scandinavian languages and dialects. A cursory check of Norwegian dialects shows that either the nominal and verbal plural forms are different, or the singular and plural verbal forms are identical.

In Standard Danish, Norwegian, and Swedish, the nominal plural form ends in *-er*, just like the verbal plural form.<sup>41</sup> Thus, one of the preconditions for complementizer agreement is met. However, the other precondition for complementizer agreement is not met, since there is no morphological opposition between singular and plural in the verbal paradigm.

This is also true of the Norwegian dialects I checked which show similar endings for the verbal plural forms and the nominal plural forms. For instance, the dialects spoken in the North of Norway generally show a plural ending *-e* both in the nominal and in the verbal paradigm. However, these dialects also do not show a morphological opposition between singular and plural in the verbal paradigm. As in Standard Norwegian, there is only one present tense agreement form (ending in *-e* in these dialects) (Lockertsen 1984).

Other Norwegian dialects, especially in the Midlandsk area, do show a morphological opposition between singular and plural in the verbal paradigm. However, all the dialects I have been able to check fail to meet the other precondition for complementizer agreement: the non-distinctness of the plural ending in the nominal and the verbal paradigm.<sup>42</sup> Thus, the Midlandsk dialects reported in Vigeland (1981:86f) have in the present tense a singular ending *-e* or *Ø* and a plural ending *-æ* ([ɛ], according to Trosterud, p.c.). Indefinite plural nouns, on the other hand, have a variety of productive plural endings. For several stems, the ending is *-a*, but this vowel does not have the same quality as the plural ending indicated by *æ* above (Trosterud, p.c.).

<sup>40</sup> (...continued)

complementizer agreement is that the verbal plural form is identical to the plural form that the complementizer would have, if it were treated by the morphological component as a noun (E. Hoekstra, p.c.).

<sup>41</sup> In actual fact, there are several types of plural formations for nouns. The formation with *-er* appears to be the more productive one. It should also be noted that the parallelism between the nominal and the verbal plural breaks down when the noun in question is definite, as in Swedish *bilder* 'pictures' versus *de bilderna* 'the pictures'.

<sup>42</sup> I owe a debt of gratitude to Trond Trosterud for providing me with the necessary detailed information about the nominal and verbal paradigms of the Norwegian dialects discussed here.

Similar conclusions can be drawn for older stages of the Mainland Scandinavian languages. Thus, the facts from Middle Danish reported by Vikner (1995:127) show that the nominal plural ending is *-er* whereas the verbal plural ends in *-e*. Old Norse had a full person agreement paradigm in the plural, again excluding complementizer agreement.

If I am correct, the absence of overt complementizer agreement in Mainland Scandinavian is related to the fact that the nominal and verbal paradigms in the Mainland Scandinavian languages and dialects fail to meet the preconditions for the appearance of overt complementizer agreement.<sup>43</sup> There is no reason, however, to conclude from the absence of overt complementizer agreement that AgrS-to-C movement does not take place. In this respect, Mainland Scandinavian is comparable to Standard Dutch and Standard High German, where the AgrS-to-C movement hypothesis provides a satisfactory account of the verb movement asymmetry in these languages.

The optimal assumption, therefore, appears to be that AgrS-to-C movement takes place in Mainland Scandinavian as well, explaining the asymmetry between main clauses and embedded clauses with respect to the position of the finite verb in the familiar way.

## 5.2 Embedded Verb Second

Vikner (1995) shows that there are two types of embedded verb movement languages in Germanic: the Yiddish-Icelandic type, which has verb movement in all embedded clauses, and the Mainland Scandinavian-Frisian type, which has embedded verb movement in circumscribed contexts only (basically the contexts in which English allows embedded root phenomena, cf. Hooper and Thompson 1973, Iatridou and Kroch 1992).

The analysis of verb movement proposed here suggests the following description of embedded verb movement.

<sup>43</sup> Other factors may be relevant for the absence of overt complementizer agreement as well. The existence of archaic dialects like Älvdalsmålet in Sweden, which show no verb movement asymmetry and resemble Insular Scandinavian, suggests that the Mainland Scandinavian verb movement asymmetry has developed out of a symmetric verb movement system. If symmetric verb movement systems are characterized by the absence of AgrS-to-C movement, we may speculate that the innovation towards asymmetric verb movement took place too late for complementizer agreement to show up. This assumes that complementizer agreement is also an archaic feature, which, I should note, is contentious. The Continental West Germanic verb movement pattern does not appear to have developed out of a system in which verb movement took place in both main and embedded clauses (see the discussion in Scaglione 1981).



Let us assume that the N-features and V-features of AgrS are strong, just like in asymmetric verb movement constructions. As a result, the subject will move to the specifier position of AgrSP, and the F-features of the verb will move to AgrS (via AgrO, T, etc.). Unlike in asymmetric verb movement constructions, however, C does not attract T in overt syntax, so that no AgrS-to-C movement takes place. As a result, the F-features of the verb are left stranded in AgrS, and must be picked up by the LC-features of the verb, in order to create a morphosyntactic object that can be interpreted by Morphology. The effect is that embedded clauses display what is a root phenomenon in asymmetric verb movement languages.

The Yiddish-Icelandic type can now be described as a type that never has AgrS-to-C movement in overt syntax. In contrast, the Mainland Scandinavian-Frisian type does have AgrS-to-C movement, but not in the circumscribed contexts where embedded verb movement is possible.

Colloquial Dutch is of the Mainland Scandinavian-Frisian type, as will be demonstrated below.<sup>44</sup>

First, consider three significant properties of embedded verb second constructions in the Mainland Scandinavian-Frisian type.

1. In subject initial embedded verb movement constructions, the subject cannot be enclitic (De Haan and Weerman 1986:85):

- (56) a. **Pyt sei dat hy/er my sjoen hie** Frisian  
 Pete said that he/SCL me seen had  
 "Pete said that he saw me."  
 b. **Pyt sei dat hy/\*er hie my sjoen**  
 Pete said that he/SCL had me seen  
 "Pete said that he saw me."

2. Embedded verb movement constructions are islands for extraction (De Haan and Weerman 1986:87, Vikner 1995).<sup>45</sup>

- (57) a. **Hvilken film sagde hun at Peter allerede havde set?** Danish  
 which movie said she that Pete already had seen  
 "Which movie did she say Pete had already seen?"  
 b. \* **Hvilken film sagde hun at Peter havde allerede set?**  
 which movie said she that Pete had already seen

<sup>44</sup> I will ignore German here (see note 7).

<sup>45</sup> Recall that in Mainland Scandinavian languages like Danish, the embedded clause word order has the finite verb following sentence adverbials. In subject initial main clauses, the finite verb precedes sentence adverbials, and in topicalizations the verb appears in the second constituent position.

### 3. Embedded verb movement constructions lack complementizer agreement (cf. section 2.1; Van der Meer 1991):

- (58) a. **Heit sei datst do soks net leauwe moast** Frisian  
 dad said that-2SG you such not believe must-2SG  
 "Dad said that you should not believe such things."  
 b. **Heit sei dat/\*datst do moast soks net leauwe**  
 dad said that/that-2SG you must-2SG such not believe  
 "Dad said that you should not believe such things."

The first two properties are also attested in Colloquial Dutch (I have no data on complementizer agreement in embedded verb movement constructions in Dutch dialects). Compare (59) with (57), and (60) with (58):

- (59) a. **Jan zei dat hij kende dat boek niet** Coll.Dutch  
 John said that he knew that book not  
 "John said that he didn't know that book."  
 b. \* **Jan zei dat ie kende dat boek niet**  
 John said that SCL knew that book not  
 (60) a. **Welke film zei je dat Jan al gezien had?**  
 which movie said you that John already seen had  
 "Which movie did you say John saw?"  
 b. \* **Welke film zei je dat Jan had al gezien?**  
 which movie said you that John had already seen

(59) shows that the enclitic pronoun *-ie* cannot appear in embedded verb movement constructions. Proclitic subjects seem possible though, something we will return to in section VII.3:

- (61) a. **Jan zei dat het regent pijpestelen** Coll.Dutch  
 John said that it rains pipe stems  
 "John said that it is raining cats and dogs."  
 b. **Jan zei dat je leeft maar één keer**  
 John said that you live but one time  
 "John said you only live once."

(60) shows that clauses with embedded verb movement are islands for extraction. As is well known, Icelandic and Yiddish allow extraction out of embedded clauses with verb movement (data from Vikner 1995:108f):

- (62) **Vos<sub>i</sub> hot er nit gevolt az die kinder zoln leyenen t<sub>i</sub> ?**  
 what has he not wanted that the children would read  
 (63) **Hvaða mynd<sub>i</sub> sagði hún að börnin hefðu þegar séð t<sub>i</sub> ?**  
 which film said she that the children have already seen

The contrast between (57) and (60) on the one hand, and (62) and (63) on the other hand is extremely stark. The question arises whether the analysis of embedded verb movement proposed here can account for this contrast.

I would like to propose the following. I have assumed that C attracts T in order to be assigned a tense value. In asymmetric verb movement languages, T moves to C in overt syntax (as part and parcel of AgrS-to-C movement). In symmetric verb movement languages, T does not move to C in overt syntax. But does T move to C in covert syntax?

Consider the effect of functional head movement on bounding conditions. Let us follow Cinque (1990) and Chomsky and Lasnik (1993) in assuming that L-related heads mark their complement as being transparent. In other words, L-related heads lift the barrierhood of their sister XP. This makes VP, AgrOP, TP, as well as the complement of V transparent for extraction, leaving only AgrSP as a potential barrier, since its sister, C, is a non-L-related head.

Now Chomsky (1986b) proposes that head movement (say, V-to-C movement) may have the effect that the barrier status of the complement of the target (C, in the example) is lifted. In more recent terminology, we can say that movement of an L-related head  $\alpha$  to a non-L-related head  $\beta$ , makes  $\alpha P$ , the complement of  $\beta$ , transparent for extraction processes.

If this is correct, AgrS-to-C movement is the general process that makes embedded clauses transparent. Now since the Minimalist Program takes all conditions to be output conditions, conditions on extraction must hold at one of the interfaces. In view of the fact that covert movement is subject to locality conditions, the relevant interface must be LF. Thus, covert AgrS-to-C movement has the same effect as overt AgrS-to-C movement: it makes AgrSP transparent.

We can now describe the situation in Yiddish and Icelandic as follows. AgrS does not move to C in overt syntax, but in covert syntax. As a result, AgrSP is transparent, and (62) and (63) are expected to be grammatical.

The situation in Mainland Scandinavian, Frisian, and Colloquial Dutch must be entirely different. The facts suggest that the barrier status of AgrSP is never lifted. Therefore, I would like to propose that in embedded verb movement constructions in Mainland Scandinavian, Frisian, and Colloquial Dutch, AgrS does not move to C at all, not even in covert syntax. As a result, the embedded AgrSP has the same status as an independent main clause: it is an inviolable barrier for extraction.

If this is correct, the question arises why AgrS does not have to move to C in covert syntax in embedded verb movement constructions. In view of our earlier discussion, this can only be understood if C does not need to be assigned a value for tense by T in the embedded clause.

To see whether it is plausible that C can do without a tense value from the embedded T, consider the contexts in which embedded verb movement occurs in the relevant languages.

The core case seems to be the complement of bridge verbs:

- (64) a. **Pyt sei dat hy hie my sjoen** Frisian  
 Pete said that he had me seen  
 "Pete said that he saw me."  
 b. **Piet zei dat hij kende dat boek niet** Coll. Dutch  
 Pete said that he knew that book not  
 "Pete said that he did not know that book."

Embedded verb movement is excluded in the following contexts (again, these restrictions do not apply to Yiddish and Icelandic):

1. in the complement of 'negative' verbs like *regret*, *doubt*, and negated verbs (De Haan and Weerman 1986, Iatridou and Kroch 1992 and references cited there; cf. Hooper and Thompson 1973)(here and below, the Colloquial Dutch facts are construed by the author):

- (65) a. **Pyt betreuret/betwivelet/leau net dat hy mie sjoen hie** Frisian  
 Pete regrets/doubts/believes not that he me seen had  
 "Pete regrets/doubts/does not believe that he saw me."  
 b. \* **Pyt betreuret/betwivelet/leau net dat hy hie mie sjoen**  
 Pete regrets/doubts/believes not that he had me seen  
 (66) a. **Jan betreurde/betwifelde/dacht niet dat hij dat boek kende** Coll.Dutch  
 John regretted/doubted/thought not that he that book knew  
 "John regretted/doubted/did not think that he knew that book."  
 b. \* **Jan betreurde/betwifelde/dacht niet dat hij kende dat boek**  
 John regretted/doubted/thought not that he knew that book

2. in irrealis complements (De Haan and Weerman 1986:84):

- (67) a. **Pyt woe sizze dat hy mie sjoen hie** Frisian  
 Pete wanted say that he me seen had  
 "Pete wanted to say that he saw me."  
 b. \* **Pyt woe sizze dat hy hie mie sjoen**  
 Pete wanted say that he had me seen  
 (68) a. **Jan had willen zeggen dat hij dat boek kende** Coll.Dutch  
 John had want say that he that book knew  
 "John would have wanted to say that he knew that book."  
 b. \* **Jan had willen zeggen dat hij kende dat boek**  
 John had want say that he knew that book

3. in adjunct clauses (Iatridou and Kroch 1992, citing De Haan, p.c.):<sup>46</sup>

- (69) a. **Ik sil fuortgean, at jo dizze film net sjen wolle** Frisian  
 I will leave if you this movie not see want  
 "I will leave if you don't want to see this movie."  
 b. \* **Ik sil fuortgean, at jo wolle dizze film net sjen**  
 I will leave if you want this film not see
- (70) a. **Wrijven helpt niet als je maagpijn hebt** Coll.Dutch  
 rubbing helps not if you stomach ache have  
 "Rubbing doesn't help if you have a stomach ache."  
 b. \* **Wrijven helpt niet als je hebt maagpijn**  
 rubbing helps not if you have stomach ache

4. in sentential subjects (Iatridou and Kroch 1992, citing De Haan, p.c.):

- (71) a. **Dat jo dizze film net sjen wolle is ferfelend** Frisian  
 that you this movie not see want is annoying  
 "That you don't want to see this movie is annoying."  
 b. \* **Dat jo wolle dizze film net sjen is ferfelend**  
 that you want this movie not see is annoying
- (72) a. **Dat Jan dat boek kent is verrassend** Coll.Dutch  
 that John that book knows is surprising  
 "That John knows that book is surprising."  
 b. \* **Dat Jan kent dat boek is verrassend**  
 that John knows that book is surprising

How do these contexts differ from bridge verb contexts?

Here we may turn to Hooper and Thompson's (1973) analysis of the classes of verbs that allow root phenomena in their complement clauses in English. Hooper and Thompson (1973:473) make the generalization that embedded clauses with root phenomena contain the assertion of the sentence as a whole. Usually, the assertion is found in the matrix clause, but with certain classes of verbs, the matrix clause is used in a parenthetical sense (cf. Urmson 1963). In that case, the embedded clause is the "main" clause in the sense that it contains the sentence's assertion.

A typical test is whether the matrix clause and the embedded clause can be switched ("Complement Preposing"), as in (73):

<sup>46</sup> Result clauses constitute a very common exception to this restriction. See Van der Meer (1988) and Rijkhoek (1996). Cf. the following example from Colloquial Dutch:

(i) **Jan was zo boos dat hij kon wel janken**  
 John was so mad that he could (modal) cry

- (73) a. **Piet zei dat hij kende dat boek niet**  
 Pete said that he knew that book not  
 "Pete said that he did not know that book."  
 b. **Hij kende dat boek niet, zei Piet**  
 He knew that book not said Pete  
 "He did not know that book, Pete said."

Complement preposing is taken to demonstrate the parenthetical use of the matrix verb (see Hooper and Thompson 1973 for other tests).

As can be seen from the example in (73), Dutch verbs that allow complement preposing also allow embedded verb movement.<sup>47</sup>

If embedded verb movement clauses are, in the sense understood here, "main" clauses, we may assume that they need not or may not be formally marked as dependent. On the plausible assumption that AgrS-to-C movement marks AgrS as dependent on C (which is itself dependent on a matrix verb), we can say that in assertive embedded clauses, AgrS-to-C movement may or must not take place.

As a result of the absence of AgrS-to-C movement, the status of the complementizer becomes unclear. If no AgrS-to-C movement takes place, the complementizer loses its function as a link between the main clause and the embedded clause. This ties in with a generalization made by Iatridou and Kroch (1992), namely that the complementizer in embedded verb movement constructions must be without features.

The reduced significance of the complementizer in embedded verb movement constructions is also clear from the absence of the complementizer in (73b). As Hooper and Thompson (1973) argue, the two sentences in pairs like (73) are synonymous.

In negative contexts and irrealis contexts (1. and 2. above), the complementizer is arguably not featureless, and the embedded clause does not carry the main assertion of the clause.<sup>48</sup>

<sup>47</sup> Interestingly, this is also true of result clauses, cf. note 46:

- (i) **Hij kon wel janken, zo boos was Jan**  
 he could (modal) cry so mad was John

<sup>48</sup> With irrealis verbs, complement preposing does not seem altogether impossible. Other tests clearly indicate that the complement of an irrealis verb does not carry the main assertion. For example, the answer to a question containing a bridge verb may refer to the embedded (assertive) clause (i):

- (i) Q **Zei je dat hij het niet wist?**  
 said you that he it not knew  
 "Did you say he didn't know?"  
 A **Nee!** "No (he did not know)." (meaning: yes, that's what I said)

(continued...)

- (74) a.     **Jan**    **dacht niet/betreurde**    **dat**   **hij**    **dat boek**    **kende**  
           John   thought not/regretted    that   he    that book   knew  
           "John did not think/regretted that he knew that book."  
       b.    \* **Hij**    **kende**    **dat boek,**   **dacht Jan niet/betreurde Jan**  
             he    knew    that book    thought John not/regretted John

In other words, the complementizer in embedded verb movement clauses is not "a real complementizer". It does not subordinate the embedded clause, in the sense that the embedded clause carries the assertion of the sentence. It has no features, and is not linked to the embedded AgrSP via functional head movement.<sup>49</sup>

As a result, the embedded clause behaves like a main clause: the verb moves to AgrS, there is no complementizer agreement or cliticization of the subject to the complementizer, and AgrSP is an island for extraction.

Summarizing, embedded verb movement constructions are characterized by the absence of AgrS-to-C movement in overt syntax. In Yiddish and Icelandic, AgrS moves to C in covert syntax, creating a normal, transparent subordination structure. In embedded verb movement constructions in Mainland Scandinavian, Frisian, and Colloquial Dutch, AgrS does not move to C at all, creating an embedded root clause in the complement of verbs that allow it.

### 5.3 Holmberg's Generalization

"Holmberg's Generalization" describes a relation between verb movement and scrambling (object shift). 'Scrambling' in this connection is understood as A-movement of the direct or indirect object of a verb, or of the subject of a Small Clause complement of a verb, from its theta-position to its syntactic licensing position (see Holmberg 1986, Vanden Wyngaerd 1989a, many others; cf. section III.2). The theta-position is assumed to be a position in the complement domain of the verb, the syntactic licensing position is assumed to be the specifier position of AgrOP.

<sup>48</sup> (...continued)

This is not possible with questions containing an irrealis verb (cf. Hooper and Thompson 1973:482f)(ii):

- (ii)    Q       **Had**    **je**    **willen zeggen**    **dat**    **hij het**    **niet**    **wist?**  
           had    you    want   say       that   he it    not    knew  
           "Would you have wanted to say that he didn't know?"  
       A       # **Nee!**                    "No (he did not know)." (meaning: yes, that's what I wanted to say)

<sup>49</sup> That *dat* may occur as "not a real complementizer" may be related to the fact that this type of complementizer originates as a demonstrative pronoun (cf. Paul *et al* 1982:455).

“Holmberg’s Generalization” comes in two versions, which I will call the *original* version and the *strict* version, respectively. The original version is due to Holmberg (1986:176). It can be formulated as follows:

- (75) *Holmberg’s Generalization* (original version)  
 Object shift of an element  $\alpha$  from the complement domain of a verb  $\beta$  occurs only if  $\beta$  has moved out of VP

This generalization is derived from standard assumptions of the Government and Binding approach (Chomsky 1981), combined with the additional assumption that a trace (in this case, of a verb) may remain invisible. In the Government and Binding approach, the verb assigns Case to its complement *inside* the VP. If the object moves out of the VP, and the verb remains inside the VP, the verb assigns Case to the trace of the object, which then counts as a variable. However, since object movement is A-movement, this variable is not A'-bound (as is required), and the derivation yields an ungrammatical result. Verb movement salvages the derivation, on the assumption that the trace of the verb may remain invisible (i.e., syntactically inactive), hence does not assign Case to the trace of the shifted object.

Many of the assumptions deriving the original version of Holmberg’s Generalization are no longer generally held. In particular, the idea that Case is assigned (noun phrases are licensed) external to the VP, and that object shift is movement to the specifier position of a functional head, makes it impossible to reduce Holmberg’s Generalization to the requirement that a variable must be A'-bound. Nevertheless, Holmberg’s Generalization is still generally considered to be valid (Chomsky 1993, Déprez 1994, Ferguson and Groat 1994, Vikner 1994).<sup>50</sup>

Chomsky (1993:18) proposes a stricter formulation of Holmberg’s Generalization, which can be derived from locality conditions on movement:

- (76) *Holmberg’s Generalization* (strict version)  
 Object shift of an element  $\alpha$  from the complement position of a verb  $\beta$  to the specifier position of  $\gamma$ , the AgrOP associated with  $\beta$ , is possible only if  $\beta$  moves to the head of  $\gamma$

On this formulation, Holmberg’s Generalization can be derived from the requirement that steps in a derivation be as short as possible (*minimality*), one of the requirements of economy of derivation in Chomsky (1993). The shortest step for an object on its way out of the VP

<sup>50</sup> Chomsky (1995:358) can no longer maintain Holmberg’s Generalization, as he assumes that the licensing position for the object is a second specifier position to VP.



would be to move to the specifier position of VP. But this is impossible, since the specifier position of VP is assumed to be the theta-position of the subject. Therefore, movement of the object to its Case-position, the specifier of AgrOP, would never be possible, unless, somehow, the specifier position of VP and the specifier position of AgrOP were to become *equidistant* from the base position of the object. Chomsky (1993:17) proposes that verb movement to AgrO has this effect of making the two specifier positions involved equidistant from the base position of the object. As a result, movement of the object across the specifier position of VP to the specifier position of AgrOP counts as the shortest possible step, and is allowed by economy of derivation.

In what follows I will be referring to the strict version of Holmberg's Generalization.

One of the problems of Holmberg's Generalization is that it is incompatible with the minimalist approach to movement and parametrization (see I.2.4). If a language has object movement to the specifier position of AgrOP, we must assume that the N-feature of AgrO is strong. The strong N-feature forces overt object movement, and failure to move the object leads to a crashing derivation.<sup>51</sup> Strength is considered to be a fixed property of functional heads in a language. Therefore, we cannot say that the strength of the N-feature of AgrO is dependent on verb movement. Therefore, if verb movement is a precondition for object movement, and the verb does not move, the derivation should crash on account of the unchecked N-features of AgrO.

A second problem is that it is difficult to find empirical evidence that supports Holmberg's Generalization unequivocally (Zwart 1994c).

Holmberg's Generalization was initially motivated with facts from Mainland Scandinavian and Icelandic. Consider the Swedish sentences in (78):

- |      |    |                                   |         |
|------|----|-----------------------------------|---------|
| (78) | a. | <b>Johan köpte den inte</b>       | Swedish |
|      |    | John bought it not                |         |
|      |    | "John did not buy it."            |         |
|      | b. | <b>..att Johan inte köpte den</b> |         |
|      |    | that John not bought it           |         |
|      |    | "..that John did not buy it."     |         |

These sentences show the verb movement asymmetry: the verb moves out of the VP in main clauses only (78a). The negation element *inte* is taken

<sup>51</sup> This refers to the theory of feature checking as feature elimination of Chomsky (1993). In the postlexicalist approach adopted in chapter V, we would have to say that strong AgrO needs to be assigned a value by the object before Spell-Out, forcing overt movement of (the F-features of) the object.

to mark the VP boundary. As can be seen, the pronominal object *den* 'it' moves out of the VP only if the finite verb does.

In Swedish, object shift is restricted to weak pronouns. Thus, full noun phrases always stay to the right of *inte*:

- (79) a.       **Johan köpte inte boken**  
               John bought not book-the  
               "John did not buy the book."  
       b.       \* **Johan köpte boken inte**  
               John bought book-the not

This suggests that the position of the object in (78) should not be understood in terms of movement to the specifier position of AgrO, but in terms of a process restricted to weak pronouns, presumably cliticization (cf. Holmberg 1986:234). So, (78) does not allow us to make a generalization about object movement.

Facts from Icelandic provide a firmer, but ultimately insufficient basis for Holmberg's Generalization.

First, full noun phrase objects appear to the left of the negation element in Icelandic, albeit optionally:

- (80) a.       **..að Jón keypti ekki bókina** Icelandic  
               that John bought not book-the  
               "..that John did not buy the book."  
       b.       **..að Jón keypti bókina ekki**  
               that John bought book-the not  
               "..that John did not buy the book."

In the embedded clauses in (80), the object *bókina* 'the book' appears both to the left and to the right of the negation element *ekki*. This suggests optional movement of the noun phrase out of the VP, or variable placement of the negative element. Assuming that noun phrase movement is triggered by a strong feature in AgrO, the noun phrase movement cannot be optional, suggesting that in fact the placement of the negative element has some freedom (cf. section II.4.2.4 for discussion of similar optional movement patterns in Dutch).

Notice that Icelandic does not show the verb movement asymmetry. The finite verb (*keypti* 'bought' in (80)) moves up front in all types of embedded clauses. Therefore, the sentences in (80) are also irrelevant for Holmberg's Generalization (although they are consistent with it, of course).

The crucial test for Holmberg's Generalization involves nonfinite verbs, assuming that these do not move out of VP. Therefore, the following pair of sentences is generally taken to support Holmberg's Generalization:

- (81) a. **Jón keypti bókina ekki** Icelandic  
 John bought book-the not  
 "John did not buy the book."  
 b. **Jón hefur ekki keypt bókina**  
 John has not bought book-the  
 "John has not bought the book."

In (81a), the finite verb moves up front, and the object appears to the left of the negation element *ekki* (in fact, optionally, as in (80)). In (81b), the past participle *keypt* 'bought' does not move to the left of *ekki*, and neither does the object *bókina*:

- (82) \* **Jón hefur bókina ekki keypt**  
 John has book-the not bought

But it is questionable whether (81) and (82) provide the correct test case. Past participle constructions involve two lexical verbs, and, hence, two VPs. The negation element *ekki* is associated with the higher verb (the auxiliary), and therefore cannot be taken to mark the boundary of the lower VP (headed by the participle). We want to make sure that the participle has not moved out of its own VP.<sup>52</sup>

To test this, we need to apply an adverb that is specifically associated with the past participle (i.e. with the lower VP). Compare the following sentences (Collins and Thráinsson 1993:144, Thráinsson 1993:199):

- (83) a. **Jón hefur lesið bækurnar oft**  
 John has read books-the often  
 "John has often read the books."  
 b. \* **Jón hefur lesið bækurnar sennilega**  
 John has read books-the probably

In (83a), *oft* is associated with the embedded VP, and both the participle and the object appear to the left of the adverb. This suggests that both the participle and the verb have moved to the left.<sup>53</sup> (83b) shows that adverbs associated with the matrix verb cannot appear to the right of the participle and the object. This tells us that we cannot analyze (83a) as involving adjunction of the adverb to the right of the VP.

<sup>52</sup> As Holmberg (1986:218) argues, infinitives move in Icelandic, so we cannot exclude the possibility that participles do so as well.

<sup>53</sup> If the participle and the object move to the left, it is probably more correct to think of the lower VP as containing a number of functional projections, yielding a [FP[VP[FP[VP]]]] structure, where *FP* can be one or more functional projections. Structures like this have been proposed in the analysis of past participle constructions in Dutch and West Flemish in Kaan (1992), Zwart (1993b:345), and Den Dikken (1996). See also Collins and Thráinsson (1993).

A third problem associated with Holmberg's Generalization is that the Continental West Germanic languages (Dutch, German, and Frisian) appear to blatantly contradict it (Zwart 1994c). Thus, in embedded clauses in Dutch, the verb stays in V, while the object moves to the specifier position of AgrOP:

- This problem does not occur in the traditional analysis of Dutch as a head final language. In that analysis, we may assume that AgrOP is head final, and that the finite verb *kuste* 'kissed' in (84) moves to AgrO (or higher) by vacuous movement. But if I am correct in arguing that Dutch is head initial, we seem to be forced to the conclusion that Holmberg's Generalization is wrong (Zwart 1994c).

In short, the empirical evidence adduced to support Holmberg's Generalization is either neutral (Mainland Scandinavian and, possibly, Icelandic) or problematic (Icelandic). In addition, there is immediate empirical evidence against Holmberg's Generalization in the facts from Continental West Germanic.

However, one of the consequences of the theory of verb movement and feature checking proposed here is that the empirical evidence against Holmberg's Generalization is removed.

Consider again the Dutch embedded clause in (84). I have proposed the following analysis. In overt syntax, AgrS needs to be assigned a feature value by the F-features of the verb, and C needs to be assigned a tense feature value by T. Consequently, the F-feature of the verb moves to AgrS via AgrO and T, creating a head adjunction structure in AgrS (cf. (22)). The head adjunction structure in AgrS, which contains T, is attracted by C. As a result, the F-features of the verb end up in C, which contains the lexical-categorial features of the complementizer (cf. (23)). Morphology will replace the head adjunction structure in C by a lexical complementizer. There is no need for movement of the lexical-categorial features of the verb, which are then spelled out in V.

The crucial aspect of this analysis to Holmberg's Generalization is that the F-features of the verb do move to AgrO in overt syntax. Thus, the Continental West Germanic do not really present counterevidence to Holmberg's Generalization, assuming that the relevant aspect of verb movement in (76) is F-movement, not LC-movement.

This suggests the following reformulation of Holmberg's Generalization:

- (85) *Holmberg's Generalization* (final version)  
Object shift of an element  $\alpha$  from the complement position of a verb  $\beta$  to the specifier position of  $\gamma$ , the AgrOP associated with  $\beta$ , is possible only if the F-features of  $\beta$  move to the head of  $\gamma$

If this is correct, the facts from Continental West Germanic are again neutral with respect to Holmberg's Generalization. They are consistent with it, but do not prove its correctness.

Possibly, however, Holmberg's Generalization is part of a principle with a larger scope. If Holmberg's Generalization, in the formulation in (85), is real, it suggests that the N-features and V-features of a functional head must either be both strong or both weak.<sup>54</sup> This would follow immediately if there are no N-features and V-features in functional heads, but just formal features that need to be assigned two values (in view of their function as mediators between a head and a phrase that must be properly paired). If so, Holmberg's Generalization is not derived from locality conditions on movement, but a virtual necessity.<sup>55</sup>

This would then also eliminate the conceptual problem associated with Holmberg's Generalization. If verb movement and object movement are both triggered at the same time, we actually predict that Holmberg's Generalization will never be violated.

Needless to say that these remarks are of a speculative nature, ignoring many immediate problems, such as the absence of verb second effects in subject initial main clauses in English.

## 6 Conclusion

In this chapter I have proposed the following analysis of the verb movement asymmetry in Dutch and other Germanic languages.

Complementizer agreement dialects like Frisian indicate that complementizer agreement does not occur in embedded verb second constructions. If complementizer agreement is a morphological reflex of AgrS-to-C movement, the Frisian facts indicate that there is a

<sup>54</sup> In Zwart (1993b), I crucially assumed that with AgrS in Dutch the N-features were strong, while the V-features were weak. This was needed to ensure that the verb did not move in embedded clauses. In the present analysis, it is assumed that the F-features of the verb are attracted by AgrS, which must therefore have strong V-features.

<sup>55</sup> See Zwart (1996a) for a discussion of the problematic aspects of the locality conditions on movement proposed in Chomsky (1993).

complementary distribution of AgrS-to-C movement and V-to-AgrS movement.

All complementizer agreement dialects show the verb movement asymmetry (embedded verb second occurs in circumscribed constructions only, just like in Colloquial Dutch). I have proposed that what characterizes complementizer agreement dialects, AgrS-to-C movement, is a property of all Germanic languages and dialects that display the verb movement asymmetry.

The asymmetry between main and embedded clauses is described as follows. In both main and embedded clauses, the V-features of AgrS are strong and attract the F-features of the verb. The F-features of the verb move in a successive head-to-head fashion from V via AgrO and T to AgrS.

In embedded clauses, AgrS (containing the F-features of the verb) moves on to C (presumably because C attracts T, incorporated in AgrS). Since C is lexically filled, the F-features of the verb are united with the LC-features of the complementizer. There is no need for movement of the LC-features of the verb to C. The verb therefore gets spelled out in V.

In subject initial main clauses, no AgrS-to-C movement takes place. The F-features of the verb are stranded in a morphosyntactic complex without LC-features. In order to make this complex interpretable for Morphology, the LC-features of the verb move and adjoin to AgrS. The verb therefore gets spelled out in AgrS.

I have argued that embedded verb movement constructions in Colloquial Dutch, Frisian, and Mainland Scandinavian are characterized by the absence of AgrS-to-C movement. In this respect, these varieties differ from Icelandic and Yiddish, in which, I have assumed, AgrS-to-C movement takes place at LF. In both cases, the absence of AgrS-to-C movement triggers movement of the LC-features of the verb to AgrS, so that the verb is spelled out in AgrS.

In the next chapter, this analysis of verb movement will be applied to inversion constructions.

## VII

# INVERSION IN DUTCH

In chapter VI, the minimalist analysis of verb movement proposed in chapter V was applied to embedded clauses and subject initial main clauses. In this chapter, the analysis is extended to inversion constructions.

Section 1 presents an analysis of topicalization and wh-movement in Dutch. In sections 2 and 3, two related questions are discussed: the proper analysis of the double agreement phenomenon in East Netherlandic and Lower Bavarian, and the interaction of verb movement and clitic placement in Dutch and West Flemish.

## 1 Topicalization and Wh-Movement

### 1.1 Introduction: Features and Structures

Inversion constructions in Dutch differ from subject initial main clauses in that the finite verb precedes the subject:

- (1) a.     **Weer kust Jan Marie**  
          again kisses John Mary  
          "Again John kisses Mary."  
      b.     \* **Weer Jan kust Marie**  
          again John kisses Mary

- (2) a.     **Waarom kust Jan Marie?**  
           why       kisses John Mary  
           "Why does John kiss Mary?"  
       b.     \* **Waarom Jan kust Marie?**  
               why       John kisses Mary

Den Besten (1977) argues convincingly that the finite verb in inversion constructions occupies the same position as does the complementizer in embedded clauses (cf. section II.2.2). For example, both the verb and the complementizer take enclitic subject pronouns:

- (3) a.     **Weer kust-ie Marie**  
           again kisses he Mary  
           "Again, he kisses Mary."  
       b.     **Waarom kust-ie Marie?**  
           why       kisses he Mary  
           "Why does John kiss Mary?"  
       c.     **..dat-ie Marie kust**  
           that he Mary kisses  
           "..that he kisses Mary."

I will accept Den Besten's conclusion that the verb in inversion constructions is in C (cf. Figure 1, section I.2.2).

Throughout this book, I have argued that subject initial main clauses in Dutch do not have a C-position. The finite verb is not in C but in a lower functional head, AgrS. One of the arguments was that there is no reason to assume that the tree structure is expanded beyond the AgrSP level in subject initial main clauses (see section VI.1).

In inversion constructions, we can easily identify grammatical features that might provide the trigger for expanding the tree up to the CP level. Thus, the sentences in (2) contain an interrogative feature (wh-feature), absent in subject initial main clauses. The wh-feature is present on the fronted constituent *waarom* 'why', but also on the sentence as a whole (an interrogative sentence). Thus, there must be a functional head at the sentence level that carries the wh-feature. Den Besten's (1977) arguments allow us to identify that functional head as C.

That C can have interrogative features is clear from the presence of wh-complementizers in Dutch:

- (4) a.     **Jan vraagt of het regent**  
           John asks if it rains  
           "John asks whether it is raining."  
       b.     **Wat vroeg je oflat Jan gedaan heeft?**  
           What asked you if that John done has  
           "What do you ask John did?"



In minimalist terms, we can say that the *wh*-feature on *C* has two functions. It is part of the label of *CP* (via feature sharing of *C* and its Projection), thereby marking the entire clause as interrogative, and it checks the *wh*-features of the *wh*-phrase in the specifier position of *CP*.

In yes/no-questions, the specifier position of *CP* is empty:

- (5)            **Heeft Jan Marie gekust?**  
               has John Mary kissed  
               "Did John kiss Mary?"

What we can minimally say about these constructions is that the label of the sentence as a whole must contain a *wh*-feature. This *wh*-feature, then, must derive from an interrogative functional head, presumably *C*.<sup>1</sup>

Noninterrogative inversion constructions like (1) are traditionally called "topicalizations".<sup>2</sup> Their outstanding feature is that they are linked to the discourse in one way or another (Prince 1995).<sup>3</sup> The fronted constituent itself is also discourse linked (*D*-linked).<sup>4</sup> On a par with interrogative inversion constructions, we may assume that *C* carries a feature that checks a corresponding feature on the fronted constituent, and percolates up to become part of the label of the sentence as a whole (cf. Chomsky 1993:32). I will refer to this feature as *d*-feature.

In noninterrogative verb first constructions, both functions of the *d*-feature are still clearly present:

- (6)            **Heeft-ie gedaan**  
               has he done  
               "He's done it."

In (6), the direct object of *gedaan* 'done' is not spelled out, but the sentence can only be interpreted if its presence is assumed. As Huang (1984) and Cardinaletti (1990) have demonstrated, these constructions

<sup>1</sup> Possibly the analysis can be expanded by assuming an empty interrogative operator in the specifier position of *CP* (cf. Baker 1970).

<sup>2</sup> The term is unfortunate, as in many noninterrogative inversion constructions the first constituent is not the topic of the discourse (see note 19 of chapter I for discussion of the terminology).

<sup>3</sup> Prince (1995) distinguishes two discourse related factors in left dislocation/topicalization. First, the left dislocated element can be a discourse-new entity which has been moved from a sentence internal position that disfavors discourse-new material. Second, the left dislocated element can serve to trigger an inference on the part of the hearer that the entity it represents "stands in a salient partially ordered set relation to some entity or entities already evoked in the discourse-model." In the latter case, the fronted element is either itself discourse-old, or somehow related to something discourse-old.

<sup>4</sup> The fronted constituent is very rarely in focus in Dutch (cf. Jansen 1981:78f).

involve an empty "topic". We may assume, then, that (6) involves the same structure and the same grammatical features as noninterrogative verb second inversion constructions (1a).

As noted in section II.2.3, topicalizations often involve a demonstrative element inserted between the "topic" and the verb (cf. Koster 1978b):

- (7)            **Jan**    **(die)**    **ken** **ik**    **niet** *t*  
                John    that one know I    not  
                "John, I don't know."

This demonstrative element (*d-word*) agrees in  $\phi$ -features with the fronted constituent.<sup>5</sup> A possible analysis, which I will adopt here, is that the specifier position of CP is always occupied by a (possibly empty) *d-word* (Zwart 1995c). Thus, the noun phrase *Jan* in (7) is base generated as a satellite, and the gap in the VP is a trace of *die*. The apparent optionality of the *d-word* is probably explained by the same process that permits "topic drop" in (6).<sup>6</sup>

If this is the correct analysis, we may associate the proposed *d-feature* with the *d-word*, instead of with the fronted constituent (the satellite) itself. Unlike the fronted constituent, the *d-word* is morphologically marked for the presence of the *d-feature*, namely by the *d-* introducing most deictic elements in Dutch. In this respect, the *d-word* (and not the satellite) is the morphological counterpart of the *wh-word*, which is morphologically marked for the presence of a *wh-feature*, namely by the *w-* introducing most interrogative elements in Dutch:

<sup>5</sup> This is a simplification. More exactly, the morphological form of the *d-word* is a function of the semantic type of the gap in the topicalization construction (the trace of the "topic"). If the gap has the semantic type of a predicate ( $e, t$ ), as in (one interpretation of) (i), the *d-word* is *dat*. Otherwise, the *d-word* agrees with the fronted constituent (ii). See Rullmann and Zwart (1996) for discussion.

- (i)            **Jan**    **dat**    **is** [    **[e]**    **de beste**]  
                John    that    is    ( $e, t$ )    the best one ( $\langle \langle e, t \rangle t \rangle$ )  
 (ii)          **Jan**    **die/\*dat**    **is** [    **[e]**    **goed**]  
                John    that one/that    is    ( $e$ )    good ( $e, t$ )

<sup>6</sup> The analysis of topicalization in Dutch as involving a satellite and a *d-word* may ultimately lead to a unification of the two types of left dislocation distinguished by Prince (1995). The discourse functions of the left dislocated element described by Prince (either new, or triggering a partially-ordered set inference, cf. note 3) apply to the satellite, whereas the *d-word* always refers to an entity evoked in the discourse-model, namely the entity represented by the satellite.

|     |               |                            |                |
|-----|---------------|----------------------------|----------------|
| (8) |               | <i>d-word</i> <sup>7</sup> | <i>wh-word</i> |
|     | <i>place</i>  | daar                       | waar           |
|     | <i>time</i>   | dan                        | wanneer        |
|     | <i>person</i> | die                        | wie            |
|     | <i>thing</i>  | dat                        | wat            |
|     | <i>manner</i> | zo <sup>8</sup>            | hoe            |

Not all topicalizations allow insertion of a d-word. When the fronted constituent is a pronoun, the d-word does not appear:<sup>9</sup>

- (9) a. **Hem** (??die) **ken ik niet**  
him that one know I not  
"Him, I don't know."  
b. **Zichzelf** (??die) **respecteert hij niet**  
himself that one respects he not  
"He does not respect himself."

I suspect that in these cases topic drop is favored because the satellite itself is inherently deictic.<sup>10</sup> When other factors come into play, the d-word may resurface:

- (10) **Zichzelf ??(daar) houdt hij niet van**  
himself there holds he not of  
"He does not love himself."

In (10), the d-word must be present because the extracted complement of the preposition must be marked with a locative feature in Dutch (the R-feature of Van Riemsdijk 1978). This suggests that the absence of the d-word in (9) is a mere preference.<sup>11</sup>

<sup>7</sup> Dutch also has a series of proximal demonstrative pronouns (*hier* 'here', *nu* 'now', *deze* 'this one', *dit* 'this'). The d-words used in topicalizations are always distal.

<sup>8</sup> Presumably *dus* 'thus, so', now an interjection, is to be regarded as the manner d-word in Dutch (Vercoullie 1925:79). *Dus* is also the common opener of sentences expressing a consequence or conclusion. *Zo* is sometimes suffixed to demonstratives and wh-words, as in *daarzo* 'right there', *hierzo* 'right here', *hoezo* 'how so', and Stoett (1977:229) gives examples from Middle Dutch where *so* is suffixed to the d-word *die* (Stoett suggests that *so* is not a d-word but a mere emphatic element).

<sup>9</sup> As discussed in section VI.3.2, weak object pronouns can never be topicalized. If we are correct, this is because weak pronouns are clitics, which, arguably, cannot be satellites. An analysis that requires fronted constituents to be focalized (as in Rizzi 1991) is less successful, since fronted constituents are generally not in focus in Dutch (Jansen 1981).

<sup>10</sup> Notice that (9a) is rather stilted compared to *Die ken ik niet* [that-one know I not].

<sup>11</sup> Preposed adverbs are not resumed by a d-word in Standard Dutch (cf. Koster 1978a:207), but East Flemish dialects have a d-word *die* used with various types of preposed adverbials (continued...)

The D-linked character of the d-word is also evident from the following facts:

- (11) a. (?) **Iedereen ken ik**  
 everyone know I  
 "I know everyone."  
 b. **Iedereen die kende ik**  
 everyone that-one knew I  
 "I knew everyone (who was there)."

In (11a), *iedereen* 'everyone' can get a universal interpretation, i.e. the domain of quantification is the universe. (The sentence is strange, since the preferred word order for this interpretation does not involve inversion.) In (11b), *iedereen* is interpreted with respect to a subdomain of the universe, determined by the discourse situation (e.g., the domain of people who showed up at a party).<sup>12</sup>

The analysis of topicalization as involving a satellite and a d-word possibly explains restrictions on topicalization in Dutch. Thus, topicalization in embedded clauses is excluded, except when the embedded clause has verb movement (cf. section VI.5.2).<sup>13</sup>

<sup>11</sup> (...continued)

(Weijnen 1966:309, Vanacker 1980), suggesting that the absence of an adverbial d-word in Standard Dutch is a superficial phenomenon:

- (i) **Bijgevolg die moet da verwijderd wor(d)en** East Flemish  
 as a result d-word must that removed become  
 "Therefore that has to be removed."

<sup>12</sup> The same contrast applies to subjects:

- (i) a. **Iedereen (\*die) is sterfelijk**  
 everyone that-one is mortal  
 "Everyone (every human being) is mortal."  
 b. **Iedereen (die) was er**  
 everyone that-one was there  
 "Everyone (we expected) was there."

<sup>13</sup> The intonational pattern of (12a) should not have the focus scrambling characteristics (cf. II.1.4):

- (i) **Jan zei dat MARIE zelfs HIJ niet wou kussen**  
 John said that Mary even he not wanted kiss  
 "John said that MARY not even HE would kiss."

Since focus scrambling and intonation have different intonational properties, I assume that (i) does not involve embedded topicalization.

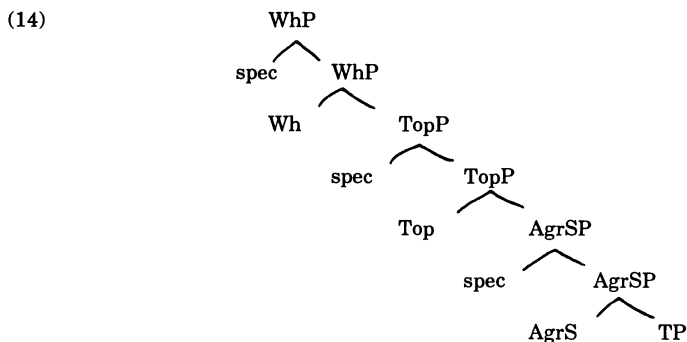
- (12) a. \* **Jan zei dat Marie (die) hij niet kuste**  
           John said that Mary that-one he not kissed  
       b. **Jan zei dat Marie (die) kuste hij niet** Coll.Dutch  
           John said that Mary that-one kissed he not  
           "John said that Mary, he did not kiss."

Embedded topicalization is excluded if we assume that the satellite (*Marie*) must be sentence initial.

The same condition on the position of the satellite explains the absence of topicalization in *wh*-constructions:<sup>14</sup>

- (13) \* **Waarom Marie die kust Jan niet?**  
           why Mary that-one kisses John not  
           "Why doesn't John kiss Mary?"

An alternative explanation for the ungrammaticality of (13) would be that *wh*-movement and topicalization both involve movement to the specifier position of CP. However, there is reason to believe that CP is actually a cover term for two non-L-related functional projections (called *WhP* and *TopP* in Hoekstra and Zwart 1994; see also Müller and Sternefeld 1993), providing a designated licensing position for *wh*-elements and *d*-words, respectively:



One of the arguments supporting the structure in (14) is the possibility of having the interrogative complementizer *of* and the noninterrogative complementizer *dat* combined in one construction (cf. (4b)). If the

<sup>14</sup> The survey in Vikner (1995:73) indicates that the only Germanic construction that allows topicalization in embedded questions is the Yiddish embedded question introduced by *far vos* 'why'. The other cases mentioned by Vikner (involving expletives and *wh*-subjects) do not involve embedded topicalization, if I am correct (see also Hornstein 1991 on the position of expletives in Germanic).

structure in (14) is correct, as I will assume here, the fact that topicalization cannot be combined with *wh*-movement cannot be explained by the idea there are not enough specifier positions to license both a *wh*-element and a *d*-word.<sup>15</sup>

This concludes the discussion of the properties of inversion constructions in Dutch. In the next subsection, I will describe verb movement in topicalization and *wh*-movement in terms of the analysis of verb movement proposed in chapter V.

## 1.2 Feature Movement in Inversion Constructions

The difference between inversion constructions on the one hand, and subject initial main clauses and embedded clauses on the other hand, follows straightforwardly from the theory of movement and feature checking proposed in chapter V.

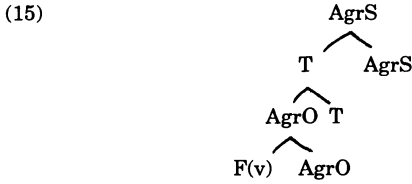
In the theory proposed here, a 'verb' is a combination of formal features (F-features) and lexical-categorial features (LC-features). F-features move when attracted by a functional head. The functional head attracts an F-feature because it needs to be assigned a feature value. LC-features move in order to create morphosyntactic objects (head adjunction structures) that can be interpreted by Morphology. Morphology replaces head adjunctions structures (X°s) by forms from the Lexicon that can be interpreted at PF. An F-feature that is not combined with an LC-feature cannot be interpreted by Morphology, and will therefore yield a nonconverging derivation.

We have assumed that the V-features of Agr and T in Dutch are strong, so that AgrO, T, and AgrS attract the F-features of the verb. This yields the morphosyntactic object in (15) (where  $F(v)$  represents the F-features of the verb):

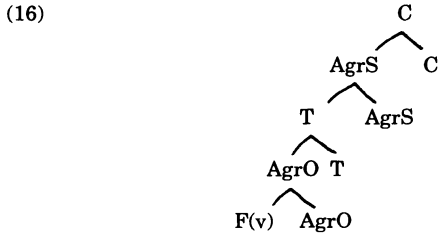
<sup>15</sup> As discussed in Hoekstra and Zwart (1994:196), the interrogative complementizer can appear even when the matrix verb does not select an interrogative complement. This happens only in cases of successive cyclic *wh*-movement, not with long distance topicalization:

- (i) a.      **Wie**    **denk** **je**    **of** **dat**    **Jan**    **gekust heeft?**  
          who    think you    if that    John    kissed has  
          "Who do you think John kissed?"
- b.      **Marie**    **(die)**    **denk**    **ik** **(\*of)**    **dat**    **Jan**    **gekust heeft**  
          Mary    that-one    think    I    if    that    John    kissed has  
          "Mary I think John kissed."

This supports the minimalist assumption that phrase structure (in this case, the WhP headed by *of*) is built from the bottom up, not on the basis of selection requirements.

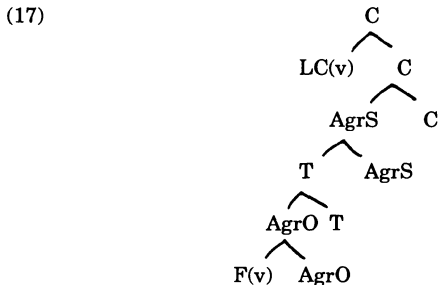


The head adjunction structure in (15) lacks LC-features and cannot be interpreted by Morphology. Therefore, in subject initial main clauses, the LC-features of the verb adjoin to AgrS, a case of Last Resort movement (see section VI.3). But when C is present, as in embedded clauses, AgrS moves on. This yields the morphosyntactic object in (16):



In embedded clauses, C contains the LC-features of the complementizer, so that the structure in (16) can be interpreted by Morphology. No Last Resort movement of the LC-features of the verb is needed (so that the verb is spelled out in V).

In inversion constructions, C is present, so that (16) is also yielded in the derivation of inversion constructions. However, in inversion constructions C does not contain LC-features. Therefore, the LC-features of the verb must move, in order to turn (16) into an interpretable object for Morphology. This yields the structure in (17):



(17) is spelled out by Morphology as a verb, which accounts for the subject-verb inversion in (1)-(2).

As in embedded clauses, movement of AgrS to C is triggered by the need for C to be assigned a tense feature by T. Since T is a term of AgrS, the entire head adjunction structure in (16) adjoins to C. The “V-feature” of C, therefore, does not attract a feature of the lexical head V, but a feature of the functional head T. This allows us to maintain that C is a non-L-related head (cf. Chomsky and Lasnik 1993).

Moreover, we must assume that the V-feature of C is strong, triggering overt AgrS-to-C movement, and, in inversion constructions, overt movement of the LC-features of the verb.

This analysis of inversion can be applied to the more detailed “multiple CP” structure in (14) without problems. The heart of the analysis remains that the highest functional head of the clause must acquire a tense value, triggering AgrS-to-C movement, and, eventually, verb movement (i.e. LC-movement). For Dutch, the facts indicate that both Wh and Top have a strong V-feature.

The structure in (14) does have the advantage, though, that we predict the existence of languages and dialects in which Wh and Top are not both strong. As is well known, English is one of the languages in which topicalization and wh-movement diverge:

- (18) a. **Again John kisses Mary**  
       b. **Why does John kiss Mary?**

The topicalization construction in (18a) does not involve subject-verb inversion, but the wh-construction in (18b) does.<sup>16</sup> If we distinguish TopP and WhP, we can describe this by saying that the V-features of Top are weak, whereas the V-features of Wh are strong.<sup>17</sup>

<sup>16</sup> I do not subscribe to the traditional view that *do* is inserted to pick up the tense/agreement features (even if this process would not necessarily be incompatible with the approach that separates F-features from LC-features). The *do*-support analysis presupposes that languages may have a default set of LC-features that can be applied to morphosyntactic complexes containing stray F-features. If that is correct, the question arises why a similar process is not available in other languages. I would prefer to think of the LC-features and F-features of *do* as being in the numeration from the start, so that English questions and negative constructions must be regarded as periphrastic from the outset. The question of language variation then focuses on the distribution of periphrastic constructions, and does not reflect on the theory of feature movement.

<sup>17</sup> The situation in English is in fact more complicated, as certain noninterrogative elements trigger inversion as well (i). I will not discuss the properties of these constructions here. As for Locative Inversion (ii), I follow Hoekstra and Mulder (1992) in assuming that it involves movement to Spec,AgrSP, not to Spec,CP.

- (i) **Never in my life have I seen such a crowd**  
 (ii) **Down the hill rolled the baby carriage**



(19) a. **In 't begun me gaan rekan missen** Kortrijk  
 in the beginning we go all the time miss  
 "In the beginning we will be wrong all the time."

b. **Zoender entwat te zeggen Wansje loat zen zwiins achter** Oostende  
 without something to say Wansje leaves his swine behind  
 "Without saying another word, Wansje leaves his swine herd."

But this question of the structure of CP is independent of the more general question of how to describe verb movement in inversion constructions. In the proposal advanced here, nothing special needs to be said about inversion constructions. The analysis combines features of the analysis of embedded clauses (AgrS-to-C movement) with elements of the analysis of subject initial main clauses (LC-movement to the morphosyntactic object containing stray F-features).<sup>19</sup>

<sup>19</sup> Yiddish and Icelandic have subject-verb inversion in *wh*-constructions and topicalizations. In chapter VI, I proposed that verb second in subject initial main clauses in Yiddish and Icelandic is related to the absence of AgrS-to-C movement in overt syntax. The inversion in topicalizations and *wh*-constructions suggests that in these constructions, Procrastination is violated, so that the F-features of the verb move from AgrS to C, forcing the LC-features of the verb to move to C as well. At this point, I have no suggestion to offer as to what causes the timing of AgrS-to-C movement to change in Yiddish and Icelandic inversion constructions. (Notice that the problem disappears if A'-movement in Yiddish and Icelandic involves movement to Spec,IP, as has been proposed by Diesing 1990 and Rognvaldsson and Thráinsson 1990, but not if there is a difference between topicalization and *wh*-movement in this respect, as in Heycock and Santorini 1992.)

## 2 Complementizer Agreement and Double Agreement

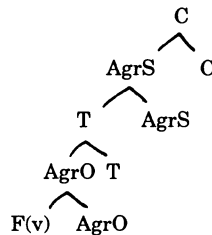
In this section, I would like to articulate the analysis of complementizer agreement. Section 2.1 describes the phenomenon in terms of the theory of feature movement proposed in chapter V. Section 2.2 describes the double agreement phenomenon of East Netherlandic and Lower Bavarian, and accounts for the difference between the two types of double agreement dialects (cf. section IV.3.2). In section 2.3, the question is raised whether subjects move to Spec,CP, and, if so, why the verb in C does not show inversion morphology in that case.

### 2.1 Complementizer Agreement

I have adopted the analysis of Hoekstra and Marácz (1989), according to which complementizer agreement is a morphological reflex of AgrS-to-C (I-to-C) movement. This analysis explains that the complementizer agrees with the subject: C contains AgrS, the designated head for checking the agreement features of the subject.<sup>20</sup>

In the analysis of movement as feature movement, AgrS-to-C movement yields a morphosyntactic object in C with the structure in (20):

(20)



I have proposed that C attracts AgrS because it needs to be assigned a tense value by the tense feature in T. On the hypothesis that licensing relations are sisterhood relations, AgrS must assign the tense feature value to C. Therefore, the tense feature must be part of the label of AgrS, on account of AgrS being in a sisterhood relation with T.

As a result, the label of C in (20) will be a unification of the features of the terms of C. Therefore, the agreement feature value of AgrS is also

<sup>20</sup> For this reason, the AgrS-to-C movement hypothesis is to be preferred to an analysis involving a separate agreement projection associated with C (cf. Shlonsky 1994). In such an analysis, the fact that complementizer agreement is *subject* agreement has to be stipulated.

part of the label of C. In addition, the label of C contains the LC-features of C.

Morphology interprets the morphosyntactic object in (20) in the following way. The LC-features of C indicate that the word form replacing the object in (20) must be a complementizer. Assuming that the relevant LC-features specify that the complementizer must be noninterrogative, Morphology produces the complementizer *dat*.

In complementizer agreement dialects, there is a *paradigm of complementizers*, organized according to an agreement feature specification. For example, the South Hollandic dialect discussed by Van Haeringen (1939) has the following complementizer paradigm:<sup>21</sup>

- (21) SG dat  
PL datte

If the label of C in (20) has the agreement value [PL], Morphology will replace the morphosyntactic object in (20) with *datte*. If not, the output will be *dat*.

In other dialects, like West Flemish, the complementizer paradigm has a person dimension in addition to the number dimension (see section IV.3.1). The interaction of syntax and morphology remains the same, however.

In Standard Dutch, the complementizer paradigm has just one form, *dat*. Morphology will therefore replace the morphosyntactic object in (20) with *dat*, regardless the agreement feature value in the label of C. Thus, the absence of complementizer agreement in Standard Dutch is a purely morphological phenomenon.

A question arises as to how complementizer agreement is realized in the absence of a complementizer. In many dialects, the complementizer is or may be absent in embedded interrogatives and relative clauses:

- (22) ..mat wiem (datt) s de spazéiere gaang bas Luxemb.  
with whom that 2SG you walk gone are  
"..with whom you went for a walk."
- (23) jonges die-e werk wille South Hollandic  
guys who PL work want  
"guys who want a job"

It is often taken for granted that embedded interrogatives have an empty complementizer. The fact that in some dialects (including Standard

<sup>21</sup> Possibly, *dat* is the underspecified form. It is the only form that survives in Standard Dutch.

Dutch), the complementizer may appear in embedded interrogatives supports the standard view (cf. (22)). The presence of complementizer agreement morphology in the relevant dialects again seems to confirm the presence of an (empty) complementizer.

However, as Kathol (1995:163) notes, it would be exceptional from a morphological point of view, if inflectional affixes appeared on empty complementizers.<sup>22</sup> Let us therefore take a closer look at the phenomena.

As we have seen in IV.3.3.c, Frisian has a process of complementizer cliticization in embedded questions and relative clauses:

- (24) a.     **Hy     freget   wa   (of)   \*(t)     jûn     komt**             Frisian  
           he     asks    who   if    that-CL   tonight   comes  
           "He's asking who's coming tonight."  
       b.     **de frou   dy   \*(t)     jûn     komt**  
           the woman   that   that-CL   tonight   comes  
           "the woman who's coming tonight"

I have assumed that the complementizer clitic is a reduced form of *dat*. Since Frisian has complementizer agreement in the second person SG, there must be two forms of the complementizer in the Lexicon, each with a reduced variant:

- |      |                  |             |                |
|------|------------------|-------------|----------------|
| (25) |                  | <i>full</i> | <i>reduced</i> |
|      | [2SG]            | datst       | tst            |
|      | [underspecified] | dat         | t              |

Many other Continental West Germanic dialects do not have complementizer cliticization, but do have optional complementizers in embedded questions. This suggests that complementizer reduction in these dialects yields an empty complementizer rather than a clitic complementizer.

If so, the Luxemburgish complementizer paradigm looks like (26) (cf. (22)):

- |      |                  |             |                |
|------|------------------|-------------|----------------|
| (26) |                  | <i>full</i> | <i>reduced</i> |
|      | [2SG]            | datts       | s              |
|      | [underspecified] | datt        | Ø              |

<sup>22</sup> Kathol (1995) suggests that these facts indicate that the earlier view, in which no distinction between C and Spec,CP was made, was correct.

From this perspective, the “stray affix” *s* in (22) is not an inflectional morpheme attached to a zero element, but a reduced form of an inflected complementizer.

## 2.2 Double Agreement

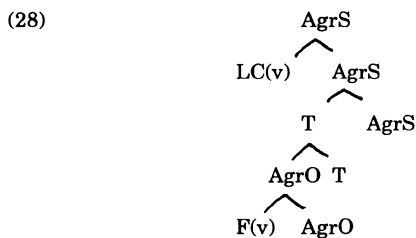
Double agreement dialects are curious in that they have verb paradigms with two different forms for a single agreement value. Thus, East Netherlandic has the forms *speult* and *speule* for [1PL], and Lower Bavarian has *fahrn* and *fahrma* for [1PL]. The only factor distinguishing these forms is the position of the verb.

The following table summarizes the distribution of the double agreement forms in East Netherlandic and Lower Bavarian:

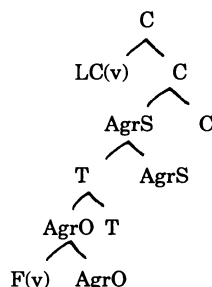
| (27)                     | C             | AgrS          | V             |
|--------------------------|---------------|---------------|---------------|
| <i>East Netherlandic</i> | <i>speule</i> | <i>speult</i> | <i>speult</i> |
| <i>Lower Bavarian</i>    | <i>fahrma</i> | <i>fahrma</i> | <i>fahrn</i>  |

As can be seen, the syntactic position determines the form of the verb.

Morphology can only be sensitive to syntactic position, if the syntactic position of an element  $\alpha$  is reflected in the feature specification of the label of  $\alpha$ . Thus, a morphosyntactic object like (28), representing a verb in AgrS, must be different from a morphosyntactic object like (29), representing a verb in C, simply because one is in AgrS and the other one in C:



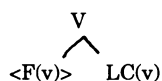
(29)



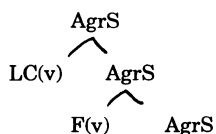
This difference can easily be accounted for in the approach proposed here. The morphosyntactic objects in (28) and (29) differ in that (29) contains a **C** and (28) does not. We have assumed that **AgrS** in (29) assigns its feature values to **C**, so that the label of **C** in (29) is a unification of the features of **C** and **AgrS**. The label of **AgrS** in (28) lacks the features of **C**.

Consider the three morphosyntactic objects that are relevant for the patterns in (27) (represented here in simplified form):

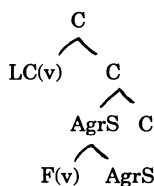
(30)

**V**

(31)

**AgrS**

(32)

**C**

East Netherlandic and Lower Bavarian differ in that East Netherlandic has one form for (30) and (31), and another form for (32), whereas Lower Bavarian has one form for (31) and (32), and another form for (30).<sup>23</sup>

Thus, the relevant oppositions are the following:

<sup>23</sup> As far as I know, no dialects exist which have three forms, i.e. a different form for each of the morphosyntactic objects in (30)-(32).

- |      |                          |                                         |
|------|--------------------------|-----------------------------------------|
| (33) | <i>East Netherlandic</i> | +C <i>speule</i><br>-C <i>speult</i>    |
|      | <i>Lower Bavarian</i>    | +Agr <i>fahrma</i><br>-Agr <i>fahrn</i> |

Again, the differences between dialects appears to be a matter of organization within the morphological component. Standard Dutch and Standard High German have an “impoverished” paradigm, in the sense that the oppositions in (33) are not reflected in different forms.<sup>24</sup>

### 2.3 Subject Topicalization

A third question that arises in connection with complementizer agreement has to do with the morphology of the verb in double agreement dialects in constructions in which the subject is topicalized. If that involves movement to the specifier position of CP (TopP) and subsequent verb movement to C, we end up with a morphosyntactic object in C that looks like (32). We therefore predict that East Netherlandic will have the subject topicalization construction (34a), next to the subject initial main clause in (34b). This prediction is not borne out:

- |      |    |             |               |
|------|----|-------------|---------------|
| (34) | a. | * <b>Wy</b> | <b>speule</b> |
|      |    | we          | play-c        |
|      | b. | <b>Wy</b>   | <b>speult</b> |
|      |    | we          | play-v        |

The phenomenon is reminiscent of *wh*-subject constructions in English, which do not involve *do*-support:

- |      |    |                             |
|------|----|-----------------------------|
| (35) | a. | <b>Who kissed Mary?</b>     |
|      | b. | * <b>Who did kiss Mary?</b> |
- 
- |      |    |                              |
|------|----|------------------------------|
| (36) | a. | * <b>Who(m) kissed John?</b> |
|      | b. | <b>Who(m) did John kiss?</b> |

For (35), it has been proposed that movement to the specifier position of CP can be dispensed with, on account of the fact that the movement would be vacuous (Chomsky 1986b).

It is not immediately clear how this proposal can be incorporated in the minimalist approach. If the specifier position of CP is the designated

<sup>24</sup> This argues against the suggestion in Gärtner and Steinbach (1994) that the Lower Bavarian pattern is evidence for generalized V-to-C movement.

licensing position for *wh*-elements, *who* must move to Spec,CP. Moreover, if the N-feature of C (Wh) in English is strong, *wh*-movement to Spec,CP must be overt.

It seems to me, however, that the vacuous movement hypothesis can be more successfully applied to subject topicalization. As noted by Prince (1995), the subject position is "strongly disfavored as a site for Discourse-new entities". If topicalization typically involves discourse-old entities, subject topicalization does not necessarily have to involve movement of the subject/topic to Spec,CP. The subject position itself is already a suitable position for discourse-old material.

Here we have to be a bit more explicit about the discourse function of topicalization (used here as a term covering both "topicalization" and "left dislocation"). Prince (1995) distinguishes two discourse functions associated with topicalization (left dislocation). First, the fronted element can be discourse-new. It is fronted because its original position (the sentence internal position) disfavors discourse-new material. Second, the fronted element can be discourse-old, in the sense that it triggers an inference on the part of the hearer that the entity it represents "stands in a salient partially-ordered set relation to some entity or entities already evoked in the discourse-model."

If topicalization in Dutch invariably involves a satellite and a *d*-word, it appears that what Prince describes as the discourse function of the fronted element applies to the satellite, rather than to the *d*-word. In fact, the *d*-word always refers to the satellite, and therefore never introduces new material into the discourse-model.

Returning to the status of subjects now, there appear to be two possibilities. Either the subject represents discourse-old information. In that case there is no trigger for an additional fronting operation. Alternatively, the subject represents discourse-new information. In that case, it must be generated as a satellite, i.e. adjoined to the root node of the sentence structure. But satellites are resumed by a (possibly empty) *d*-word, which itself represents old information (that is, it refers to the satellite). Therefore, there is no reason why subject topicalization could not involve a satellite adjoined to AgrSP and a *d*-word in Spec,AgrSP.

At this point, the question arises whether there is any empirical evidence for subject topicalization as involving movement of the subject to Spec,CP. In earlier work (Zwart 1991b, 1993b:250f) I have taken the following deletion facts as suggesting that the subject may be in Spec,CP in subject-initial main clauses:



- (37) a. ? **Jan ken ik niet, maar - werkt bij ATW**  
 John know I not but works at General Linguistics  
 "John I don't know, but (he) works for the Department of Linguistics."  
 b. ? **Jan werkt bij ATW, maar - ken ik verder niet**  
 John works at Gen.Ling. but know I further not  
 "John works for the Dept. of Linguistics, but I don't know him apart from that."

In (37a), the subject in the second of two conjoined clauses is deleted under identity with the topic of the first. In (37b), the topic of the second clause is deleted under identity with the subject of the first. These facts suggest that grammatical function is irrelevant to deletion in coordinate structures.

My earlier hypothesis about these facts was that a subject can delete under identity with a topic if and only if the subject and the topic are in the same structural position. If so, we must conclude that the subject in (37) is in Spec,CP, just like the topic.

Other deletion facts indicate that subject initial main clauses cannot *always* be CPs. In (38), the subject in the first clause triggers deletion of the subject in the second clause (facts like these first discussed in Höhle 1983):<sup>25</sup>

- (38) **Toen reed de trein verder en - stopte pas weer in Assen**  
 then rode the train on and stopped only in Assen  
 "Then the train went on and did not stop again until Assen."

In the first clause in (38), the subject is unambiguously in Spec,AgrSP. If subject deletion is possible only when the antecedent and the gap are in the same structural position, the subject gap in the second clause in (38) must be in Spec,AgrSP (Zwart 1991b).

Thus, if the analysis of subject deletion is correct, subject initial main clauses must be structurally ambiguous between AgrSP and CP.

<sup>25</sup> Various pieces of evidence indicate that the subject gap in constructions like (38) must be located to the left of the verb (see also Sturm 1995). Thus, if the deleted subject is a second person singular pronoun, the verb in the second clause has the morphology of non-inverted verbs (i), the presence of a topic in the second clause makes the construction ungrammatical (ii), etc.:

- (i) **Dan keer je je om en gaat/\*ga weer terug**  
 then turn you you around and go [-inv]/[+inv] again back  
 "Then you turn around and go back again."  
 (ii) \* **Toen reed de trein verder en opeens stopte - in Assen**  
 then rode the train on and suddenly stopped in Assen  
 "Then the train went on and suddenly stopped in Assen."

It seems to me, however, that the analysis is not correct, and that (37) and (38) represent two phenomena that should be clearly distinguished. The following observations suggest that (37) and (38) represent different types of constructions.

First, the deleted element in (37) is subject to a condition of strict morphological identity with the antecedent. When the deleted element is overtly marked for Case, the construction becomes sharply ungrammatical:

- (39) a. \* **Hem ken ik niet, maar - werkt bij ATW**  
 him-ACC know I not but works at General Linguistics  
 "Him I don't know, but (he) works for the Department of Linguistics."  
 b. \* **Hij werkt bij ATW, maar - ken ik verder niet**  
 he-NOM works at Gen.Ling. but know I further not  
 "He works for the Dept. of Linguistics, but I don't know him apart from that."

Apparently, (39a) is ungrammatical because the accusative pronoun *hem* 'him' cannot be substituted in the subject position in the second clause. Similarly, mutatis mutandis, for (39b):<sup>26</sup>

- (40) a. \* **Hem werkt bij ATW**  
 him-ACC works for General Linguistics  
 b. \* **Hij ken ik niet**  
 he-NOM know I not

The morphological identity (substitution) requirement does not hold for the type in (38). This can be seen from examples in which the antecedent appears in an expletive construction (data adapted from Heycock and Kroch 1993, who cite Jack Hoeksema, p.c.):

<sup>26</sup> The substitution requirement is actually stronger than the requirement of morphological identity. The following example shows that the substitution requirement is correct:

- (i) a. \* **Je werkt bij ATW maar - ken ik verder niet**  
 you-NOM work at Gen.Ling. but know I further not  
 b. \* **Je ken ik niet**  
 you-ACC know I not  
 c. **Ik ken je niet**  
 I know you-ACC not

(ia) is ungrammatical because the weak pronoun cannot be substituted in the topic position (ib). As (ic) shows, the subject and object pronoun are morphologically identical.

- (41)        **Toen kwam er opeens een jager aan**  
              then came there suddenly a hunter on
- en - schoot het haasje dood**  
              and shot the rabbit dead

"Then suddenly a hunter arrived and shot the rabbit."

In (41), the empty subject in the second clause cannot be substituted by its antecedent *een jager* 'a hunter'. Instead, the empty subject must be replaced by a bound demonstrative pronoun:

- (42)        **Toen kwam er opeens een jager aan**  
              then came there suddenly a hunter on
- en die/\*een jager schoot het haasje dood**  
              and that one/a hunter shot the rabbit dead

"Then suddenly a hunter arrived and he shot the rabbit."

We know from other deletion cases that the deleted element does not have to be morphologically identical to its antecedent (Bouton 1970, Vanden Wyngaerd and Zwart 1991):

- (43)        **Ik lees een boek en hij (leest/\*lees) een krant**  
              I read a book and he reads/read a newspaper

Apparently, the deleted element, when replaced, can be adapted to meet the requirements set by its environment. This takes place in the type of (38) (cf. (42), but not in the type of (37) (cf. (39)). This suggests that (38) involves deletion, whereas (37) does not.

A second difference between (37) and (38) is that in (38) the action described in the second clause necessarily continues or follows from the action or state described in the first clause (see also Sturm 1995). In contrast, (37) requires a juxtaposition or even anteposition of two possibly independent actions or states.

Sturm (1995) shows that in all the grammatical constructions of the type in (38) the second clause can be paraphrased as an infinitival purpose clause introduced by *om vervolgens* [for consecutively]:

- (44) a. **Toen reed de trein verder om vervolgens**  
 then rode the train on for consecutively
- pas weer in Assen te stoppen**  
 only in Assen to stop
- "Then the train went on and did not stop again until Assen."
- b. **Toen kwam er een jager aan om vervolgens**  
 then came there a hunter on for consecutively
- het haasje dood te schieten**  
 the rabbit dead to shoot
- "Then a hunter arrived and killed the rabbit."

The *om vervolgens* paraphrase is impossible in constructions of the type of (37):

- (45) a. \* **Jan ken ik niet om vervolgens bij ATW te werken**  
 John know I not for consecutively at Gen.Ling. to work
- b. \* **Jan werkt bij ATW om vervolgens niet te kennen**  
 John works at Gen.Ling. for consecutively not to know

Conversely, sentences of the type of (37) appear to be most felicitous when the conjunction is adversative (e.g. *maar* 'but', cf. (37)). An adversative conjunction appears to be impossible in constructions like (38):

- (46) a. \* **Toen reed de trein verder maar stopte pas weer in Assen**  
 then rode the train on but stopped only again in Assen
- b. \* **Toen kwam er een jager aan maar schoot het haasje dood**  
 then came there a hunter on but shot the rabbit dead

Summarizing, the deletion type in (37) is *juxtapositive* and involves a morphological identity requirement, whereas the type in (38) is *continuative* and forces a bound variable reading of the deleted subject. These observations suggest that the two types of construction are different, and should be analyzed in different ways.

I would like to propose that (37) does not involve deletion, but coordination of (potentially unlike) categories.<sup>27</sup>

- (47) **Jan [[ ken ik niet ] maar [ werkt bij ATW ]]**  
 John know I not but works at Gen.Ling.

<sup>27</sup> In contrast, (38) does involve deletion, and, possibly, subordination instead of coordination.

That coordination of unlike categories is quite generally possible is evidenced by the collection of phenomena in Johannessen (1993).

The analysis in (47) immediately captures the morphological identity requirement, since there is no deletion. The substitution requirement also follows, on the plausible assumption that the leftmost element must be compatible with both conjuncts.

Returning now to the question of subject topicalization, it seems to me that there is no evidence that the juxtaposition construction in (37) requires the subject and the topic to be in the same *structural*, rather than *linear*, position. If the analysis in (47) is correct, all that is required is that the subject/topic occupies a leftmost position.

The subject deletion facts of Dutch, then, do not force us to the conclusion that subject initial main clauses are structurally ambiguous between AgrSP and CP. I will therefore hypothesize that subject topicalization does not exist, explaining the ungrammaticality of (34a).

This concludes the discussion of complementizer agreement and double agreement phenomena.

### 3 Clitic Placement

In section IV.2, I have argued that Dutch weak pronouns are clitics, and I have adopted the view that clitics are associated with functional heads. The distribution of clitics in Dutch then allowed us to conclude that there are a number of functional heads to the left of VP, in addition to C.

Here I would like to briefly address a number of questions associated with cliticization.

First, it has remained unclear so far how exactly the “association” of clitics with functional heads is given structural shape. This will be discussed in section 3.1.

A second problem is that clitic placement appears to be optional, at least to a significant degree. Thus, clitics appear in the position of the functional head associated with the grammatical function of the full noun phrase they replace (i.e. object clitics in AgrO, subject clitics in AgrS, etc.), or *higher*. The question how to describe the optionality will be addressed in section 3.2.

Third, it must be made clear how verb movement and functional head movement affect the distribution of clitics. As is well known, languages appear to show considerable variation in this respect (cf. Kayne 1991). This is the subject of section 3.3.

The discussion in this section is intended as no more than a tentative approach to the issues from the perspective of the postlexicalist approach taken in this book.

### 3.1 Clitics and Functional Heads

In section IV.2.2, the discussion of the distribution of clitics in West Flemish led to the following conclusion:

there is a relation between the position of the functional projections designated for the licensing of phrasal arguments and the possible position of argument clitics corresponding to these phrasal arguments.

Thus, direct object clitics can be in the AgrO designated for licensing the direct object, or higher; indirect object clitics can be in the AgrO designated for licensing the indirect object, or higher; etc.

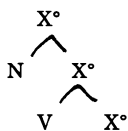
Crucially, object clitics cannot be lower than the AgrO designated for licensing the direct object, indirect objects cannot be lower than the AgrO designated for licensing the indirect object, etc.

The analysis of scrambling in section III.2 and IV.2.1.3 indicates that full noun phrases are different from clitics in this respect. Full noun phrases (in Dutch) must be in the specifier position of the AgrOP in which they are licensed, not lower, but also not higher (except in topicalization constructions, focus scrambling constructions, wh-movement constructions, etc.). This supports Kayne's (1975) conclusion that clitics are heads.

The association of clitics and agreement phrases suggests that clitics are attracted by functional heads in the same way that full noun phrases are. Thus, we may assume that clitics check the N-features of Agr (i.e., they assign an agreement feature value to Agr). Since we have assumed that licensing relations are sisterhood relations, clitics must be adjoined to AgrS as sisters, just like the F-features of the verb.

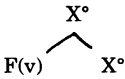
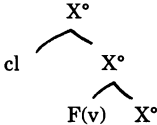
At this point, I would like to adopt a proposal made by Hoekstra (1995), according to which every functional head makes two head adjunction positions available, according to the structure in (48):

(48)



The position marked by *V* is for elements checking the V-features of  $X^{\circ}$ , the position marked by *N* is for elements checking the N-features of  $X^{\circ}$ . Thus, the N-position is an “ $X^{\circ}$  specifier”.

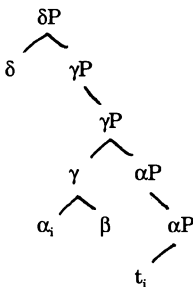
Adopting the structure in (48), we can say that the F-features of the verb adjoin to  $X^\circ$  first, yielding (49a), after which the clitic adjoins to the top  $X^\circ$ , yielding the structure in (49b):

- (49) a. 
- b. 

The adjunction of the clitic to Agr (as in (49b)) accounts for one half of the generalization about clitic placement from section IV.2.2 (repeated above). Since the clitic checks the N-features of Agr, it cannot appear lower than the relevant Agr.

The other half of the generalization is that the clitic may appear higher than the relevant Agr-position. Since clitics preferably appear to the immediate right of the subject in Dutch, we may conclude that clitics regularly leave the position in which they check the N-features of Agr, and move higher.

The structure in (49b) includes that possibility. I have adopted the standard analysis of head movement (cf. Chomsky 1991): if a head  $\alpha$  adjoins to  $\beta$  on its way to  $\delta$ , forming the head adjunction structure  $\gamma$ ,  $\alpha$  can only move to  $\delta$  as part of  $\gamma$ :

- (50) 

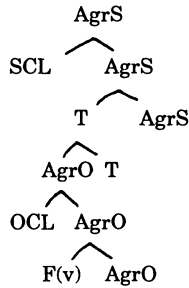
As the arrows indicate, there can be no excorporation of  $\alpha$  out of  $\gamma$ . This approach to head movement was implicit in the analysis of verb movement in chapter VI and above.

Adopting the structure in (49b), we can say that the clitic moves to a higher position as part and parcel of the functional head that moves to a higher functional head.





(53)



Again, the subject clitic is adjoined in the N-position of AgrS, and the T/AgrO complex is adjoined in the V-position of AgrS (cf. (49b)).

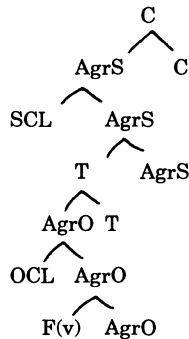
If no further movement of AgrS to C takes place, the LC-features of the verb have to move and adjoin to the morphosyntactic complex in (53). The result is a complex that Morphology interprets as SCL-Verb-OCL:

(54)

**'k**      **Heb**   **'t**  
 SCL    have   OCL  
 "I've got it."

If AgrS does move to C, the resulting complex is (55), interpreted by Morphology (after LC-movement) as (56):

(55)



(56)

**Heb**   **'k**   **'t?**  
 have   SCL   OCL  
 "Do I have it?"

As can be seen in (54) and (56), Morphology translates the structures in (53) and (55) into "words" consisting of a verb and its clitics. The order of the clitics appears to be a function of the structure of the morphosyntactic

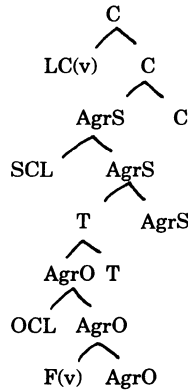
complexes: the subject clitic c-commands the object clitic and appears to the left of it.<sup>28</sup>

But the position of the verb differs in (54) and (56). This can only be related to the adjunction site of the LC-features of the verb. Assuming that c-command determines linear order, it must be the case that the LC-features of the verb are adjoined higher than the subject clitic in (55), and lower than the subject clitic in (53).

This can be derived if we make adjunction of the LC-features sensitive to the distinction between N-positions ( $X^\circ$  specifiers) and V-positions ( $X^\circ$  head adjunction positions) in (48). Since the LC-features of the verb, like the F-features of the verb, are associated with V-positions, a proposal would be that the LC-features of the verb adjoin above the highest V-position in the head adjunction structure.

For (55), the proposal yields the structure in (57):

(57)

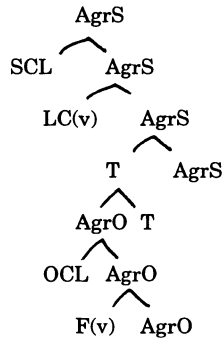


<sup>28</sup> This is consistent with Kayne's (1994) *Linear Correspondence Axiom*, according to which linear order is a function of hierarchical relations.

In (57), the LC-features of the verb dominate the subject clitic and the subject clitic dominates the object clitic, leading to the order Verb-SCL-OCL in (56).

For (53), the proposal yields the structure in (58):

(58)

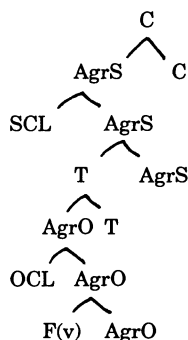


In (58), the subject clitic c-commands the LC-features of the verb, and the LC-features of the verb c-command the object clitic. This leads to the order SCL-Verb-OCL of (54).

This approach to cliticization has much in common with the 'lexicalist' approach defended in Miller (1991), where a clitic is taken to constitute a single lexical item with the verb. Inversion phenomena, in which the order of verb and clitics is affected by syntactic operations, are problematic for this approach. The problem, as I see it, was that a lexicalist approach to the relation between syntax and morphology was assumed (cf. section V.2). In the postlexicalist approach adopted here, Morphology can be made sensitive to the structure of the morphosyntactic objects created in the course of the syntactic derivation, without having to assume that clitics are 'separate words'. In this approach, syntactic cliticization is special in that it leads Morphology to spell out morphosyntactic objects as containing various pieces of lexical material: a form from a verb paradigm, and one or more elements from pronominal paradigms.

Consider how the enclitic subject pronouns on the complementizer can be accounted for on this approach (cf. (51a)). Movement of AgrS to C again yields the morphosyntactic object in (55), repeated here as (59):

(59)



In this case, C is a lexical complementizer, and no movement of the LC-features of the verb is called for. The complex is translated by Morphology as (60):

(60)

..dat 'k 't  
 that SCL OCL  
 "..that I it"

Again, the order subject clitic-object clitic is a function of the c-command relation. But so is the order of the complementizer (in C) and the subject clitic. The fact that the complementizer does not precede the subject clitic in the structure in (59) is apparently irrelevant to interpretation in Morphology.<sup>29</sup>

If c-command relations within  $X^\circ$  are relevant to the morphological interpretation of  $X^\circ$ , the contents of the label of  $X^\circ$  must be related to the position of the various elements in  $X^\circ$ . The generalization follows if the first element in the label of  $X^\circ$  is the hierarchically highest element in  $X^\circ$ . Thus, the label of C in (59) will be as in (61):

(61)

$C = \{ \{ \text{LC}(c), \text{SCL}, \text{OCL} \} \text{AgrS}, C \}$

Morphology will then interpret the complementizer's LC-features (LC(c)) first, then the subject clitic, and finally the object clitic.<sup>30</sup>

<sup>29</sup> This approach maintains Kayne's (1994) relation between hierarchy and linear order, but the structures proposed do not necessarily meet the conditions on phrase structure proposed in Kayne (1994). I take the relation between hierarchy and linear order to be the heart of Kayne's proposal (cf. Chomsky 1995, section 8).

<sup>30</sup> The F-features of the verb are relevant to the correct interpretation of the complementizer (in view of complementizer agreement). I have expressed this by saying that F(v) assigns an agreement feature value to C, so that the position of the F-features in the label is irrelevant to Morphology.

### 3.2 Clitic Placement and Optionality

So far, we have made two assumptions regarding clitic placement. First, clitics are part of the morphosyntactic objects (head adjunction structures) that are interpreted by Morphology. Second, clitics move to the left as free riders in the process of functional head movement.

However, the generalization regarding clitic placement in West Flemish, deriving from work by Liliane Haegeman, is that clitics can appear in any number of functional head positions (cf. section IV.2.2). The question is how to describe this optionality.

Consider first a simple case, in which an object clitic remains in AgrO. This, we have argued, is what happens when the object clitic appears to the right of the indirect object, as in (62):

- (62)      ..da    Jan   Marie   't gisteren   gegeven eet                      West Flemish  
               that   John   Mary   it   yesterday   given has  
               "...that John gave it to Mary yesterday."

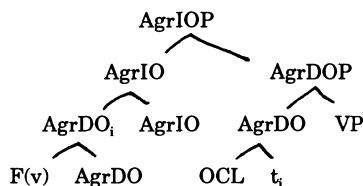
In (62), the indirect object *Marie* occupies the specifier position of an agreement phrase associated with the indirect object (AgrIOP), and the clitic is in the head of the agreement phrase associated with the direct object (AgrDOP). After movement of the F-features of the finite verb (*eet* 'has') to AgrDO, we end up with the following complex in the head of AgrDOP (cf. (49b)):

- (63)
- $$\begin{array}{c}
 \text{AgrDO} \\
 \swarrow \quad \searrow \\
 \text{OCL} \quad \text{AgrDO} \\
 \swarrow \quad \searrow \\
 \text{F(v)} \quad \text{AgrDO}
 \end{array}$$

In (63), the object clitic occupies the X<sup>°</sup> specifier position (the N-position of (48)) and the F-feature of the verb occupies the X<sup>°</sup> head position (the V-position of (48)).

We have assumed earlier that head movement always involves the entire head adjunction structure. Here, however, we appear to be forced to modify that assumption. The object clitic can only be stranded in AgrDO if only the lower part of the AgrDO structure in (63) moves to the next functional head (AgrIO):

(64)



In further steps, AgrIO moves to T, AgrS, and eventually C, stranding the object clitic in AgrDO, yielding (62).

If AgrDO-to-AgrIO movement involves the entire AgrDO head adjunction structure in (63), the object clitic will end up in C after all the head movement steps are executed, yielding the word order in (65):

(65)

**..da 't Jan Marie gisteren gegeven eet**  
 that it John Mary yesterday given has  
 "...that John gave it to Mary yesterday."

But, as we have seen in section IV.2.2, West Flemish allows the object clitic to appear in intermediate positions also:

(66)

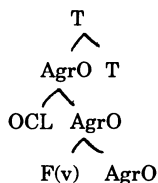
**..da Jan 't Marie gisteren gegeven eet**  
 that John it Mary yesterday given has  
 "...that John gave it to Mary yesterday."

The word order of (66) is also the one most commonly found in Standard Dutch.

Obviously, the position of the object clitic in (66) cannot be described as the result of either stranding the object clitic in its original position, or as moving the clitic all the way up to C. Thus, there must be an additional mechanism by which the object clitic is allowed to be moved along a part way only.

Suppose the object clitic has been moved along in the process of functional head movement to T:

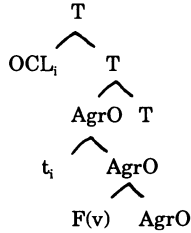
(67)



Now the object clitic could be left stranded in T by moving only the lower part of AgrO. But this is impossible, because T would no longer be part of the functional head movement process, and C (which attracts T) would never be assigned a tense value.

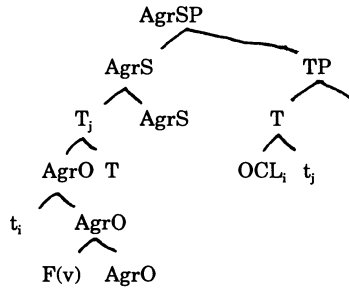
Thus, the object clitic can only be stranded in T if it moves out of its position in (67) to a position in which it can be stranded. There is one possibility that could be explored here, namely movement of the clitic to the N-position in T:

(68)



In (68), the object clitic can be stranded, again by moving the lower part of T:

(69)



In (69), the head of TP will have only one element that can be interpreted by Morphology, the object clitic.

At this point, the process of clitic raising described in (68) is a purely arbitrary process, if it exists at all. There is no obvious trigger for the movement, so it is not clear how to describe it in minimalist terms. This is a direct consequence of the circumstance that the Minimalist Program is ill equipped to deal with optional movement phenomena.

There may be a piece of empirical evidence, however, that supports the process of clitic raising.

As discussed in section 3.1, Morphology interprets head adjunction structures containing clitics in a rigid way. Thus, a subject clitic precedes the object clitic in the output of Morphology, because the subject clitic c-commands the object clitic in the input to Morphology.

Now it is well known that in clitic clusters, the ordering is not always as regular as expected. Often, the order of two object clitics is the mirror image of the order of two object noun phrases (cf. II.2.1.3.b).

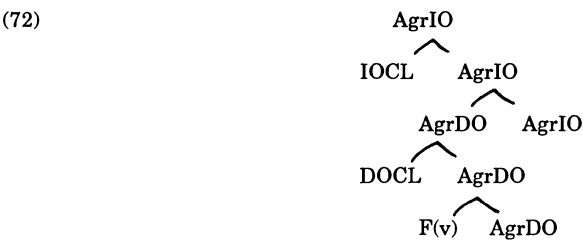
- (70) a. **..dat Jan Marie het boek gegeven heeft** St.Dutch  
 that John Mary the book given has  
 "...that John gave the book to Mary."  
 b. **..dat Jan 't 'r gegeven heeft**  
 that John DOCL IOCL given has  
 "...that John gave it to her."

Also, the ordering appears to be dependent on morphophonological factors in many languages. Compare the following examples from French:

- (71) a. **Il la lui a donné** French  
 he DOCL IOCL has given  
 "He gave it to him."  
 b. **Il me l' a donné**  
 he IOCL DOCL has given  
 "He gave it to me."

Irregularities of this kind suggest that the hierarchical relations between clitics can be mixed up in clitic clusters.

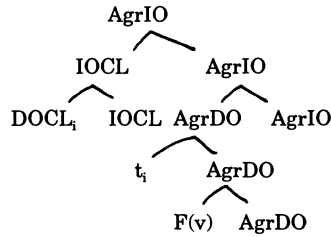
Clitic raising might be the process by which the hierarchical relations between clitics are destroyed. Consider the example from Dutch, where the indirect object clitic and the direct object clitic form a cluster, stranded in a functional head below AgrS. Let us suppose that the relevant functional head hosting the stranded clitics is AgrIO. After AgrDO-to-AgrIO movement, the head adjunction structure in AgrIO looks like this:



If the direct object clitic is to be stranded in AgrIO, it has to raise to the N-position of AgrIO (the X° specifier position), occupied by the indirect object clitic:



(73)



In (73), the  $X^0$  specifier position of AgrIO is occupied by two clitics. Apparently, Morphology interprets these clitics as a cluster, i.e. as a complex without clear hierarchical organization. As a result, we expect the ordering of the clitics to be determined by other factors, such as the morphophonological factors at play in French.

### 3.3 Clitic Placement and Verb Movement

A final problem to be discussed here concerns the interaction between clitic placement and verb movement. This appears to be a source of significant crosslinguistic variation. In describing some of the phenomena here, I will make crucial use of the clitic raising proposal of section 3.3.

A major instance of variation between Germanic and Romance appears to be that clitics can be taken along with the verb to C in Romance, whereas clitics are generally stranded to the right of the subject in Germanic. Compare (74), from French, and (75), from Standard Dutch:

- (74) a.      **L'      as      tu      vu?** French  
          OCL   have   you   seen  
          "Did you see it?"  
       b.    \* **As      tu      le      vu?**  
              have   you   OCL   seen
- (75) a.      **Heb      je      't      gezien?** Dutch  
          have   you   OCL   seen  
          "Did you see it?"  
       b.    \* **'t      Heb      je      gezien?**  
              OCl   have   you   seen

However, it would not be correct to say that there is a general split between Germanic and Romance in this respect. In West Flemish, for instance, the object clitic may be taken along to C:

- (76) a.      **Ee**    **'t**    **Jan Marie**    **gegeven?**                      West Flemish  
              has    OCL John Mary    given  
              "Did John give it to Mary?"  
       b.    \*    **'t**    **Ee Jan Marie**    **gegeven?**  
              OCL    has    John Mary    given

The example from West Flemish suggests that the crucial difference between Romance and Germanic (more accurately, between French and Dutch/West Flemish) is a matter of proclisis versus enclisis, rather than a matter of pied piping versus stranding.

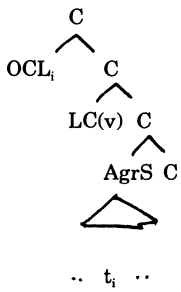
The question, then, is how to describe proclisis in French.

Let us suppose that the finite verb *as* 'have' in (74) is in C, just like in inversion constructions in Continental West Germanic. In the approach to verb movement proposed here, verb movement to C must be the result of a combination of F-movement and LC-movement. I have assumed that the LC-features move as a Last Resort, and adjoin to C, below the X° specifier position associated with C.

In Dutch and West Flemish, this yields the order Verb-Clitic, since the LC-features of the verb c-command the object clitic in the head adjunction structure in C. In French, a process is needed that lifts the object clitic out of the c-command domain of the LC-features of the verb.

The process of clitic raising, proposed in section 3.2 to account for clitic stranding in Germanic, could be the process we are looking for here as well. Without clitic raising, the object clitic would be c-commanded by the LC-features of the verb, and the Germanic Verb-Clitic order would result. But clitic raising to the X° specifier position of C removes the object clitic from the c-command domain of the LC-features of the verb:

(77)

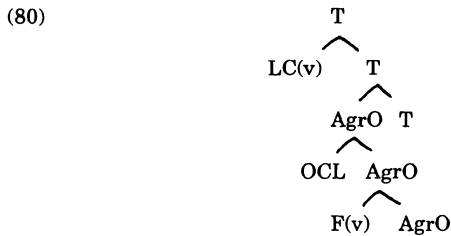


This then yields the Clitic-Verb order in (74).

This approach to proclisis might also be of help elsewhere. As discussed at length in Kayne (1991), Italian and French differ in that French infinitives have proclitic object clitics, whereas Italian infinitives have enclitic object clitics. Finite verbs have proclitic objects in both languages:

- (78) a. **Le voir (serait une erreur)** French  
           OCL see-INF (would be a mistake)  
           "to see him"
- b. **(Jean) le voit**  
           (John) OCL sees  
           "sees him"
- (79) a. **Veder-lo (sarebbe un errore)** Italian  
           see-INF OCL (would be a mistake)  
           "to see him"
- b. **Lo vede**  
           OCL sees  
           "He sees him."

Employing the process of head internal clitic raising, we can describe the case of Italian infinitives as involving no clitic raising. As a result, the verb-clitic combination will be spelled out as in Dutch, with the LC-features of the verb c-commanding the clitic in the head adjunction structure:<sup>31</sup>



The remaining cases (i.e. the case of Italian finite verbs and the case of French) can be described as involving clitic raising to an  $X^{\circ}$ -specifier position c-commanding the position of the LC-features. The resulting structures would be spelled out in the order Clitic-Verb, just like with French verbs in inversion constructions (cf. (77)).<sup>32</sup>

<sup>31</sup> I follow Kayne (1991) in assuming that the infinitive in Italian is in a relatively high position.

<sup>32</sup> An advantage of this approach over the analysis in Kayne (1991) may be that it is not necessary to assume a separate functional head for infinitivals in French (*Inf*n in Kayne 1991). Also, Kayne assumes that infinitivals in Italian move to a higher position than finite verbs, which introduces an unexpected asymmetry between finite and nonfinite verbs. Kayne's analysis also involves adjunction of the infinitive to  $I'$  (I-bar) in Italian, something I have assumed yields impossible structures (see section V.3.1.2). (Kayne employs the  $I'$ -adjunction in an analysis of control infinitives in French and Italian. However, the status of this analysis is unclear once the PRO-theorem is abandoned and PRO is defined as an element with Null Case (cf. Chomsky and Lasnik 1993).)

### 3.4 Conclusion

In this section I have sketched the bare outlines of an approach to cliticization in which clitics are generated in  $X^\circ$  specifier positions of functional heads. They may be stranded or pied piped when the functional head hosting the clitic moves. In addition, I have proposed that clitics may raise internal to the head adjunction structure, from their original position to a higher  $X^\circ$ -specifier position.

These proposals were needed to capture the observation that the position of clitics is related to the position of the agreement heads (section IV.2.2), and at the same time to allow for the possibility that clitics optionally move and adjoin to higher functional heads. I indicated that the proposal of “clitic raising” may be relevant to the description of word order variation involving clitics, though much more research is needed.

I have also adopted a “lexicalist” approach to cliticization here, in the sense that clitics are not regarded as independent words by Morphology. Since clitics are part of  $X^\circ$  head adjunction structures, and Morphology interprets  $X^\circ$  elements, Morphology must somehow spell out clitics as subparts of lexical items.

Thus, the postlexicalist approach to the relation between syntax and morphology makes it possible to combine two apparently contrasting views on the nature of cliticization. From a syntactic point of view, clitics are independent elements, and from a morphological point of view, clitics are not. If morphology is postsyntactic, these two views are no longer incompatible.

## 4 Conclusion

In this chapter I have proposed to describe inversion as involving movement of the F-features of the verb from V (via AgrO, T, AgrS) to C (where C can be Top or Wh). In C, the F-features of the verb would be stranded in a morphosyntactic complex without LC-features. Therefore, the LC-features of the verb move and adjoin to C, so that the verb is spelled out in C.

The analysis combines features of the analysis of subject initial main clauses (F-movement and LC-movement to the same functional head) and embedded clauses (F-movement to C). The crucial difference with subject initial main clauses is that subject initial main clauses target AgrS whereas inversion constructions target a higher functional head. The crucial difference with embedded clauses is that C has its own LC-features in embedded clauses, but not in inversion constructions.

I have argued that double agreement dialects (in which the verb has two forms for one set of  $\phi$ -features) are characterized by a more complex morphological paradigm. The selection of the correct form from the paradigm is sensitive to the structure of the morphosyntactic complex hosting the LC-features of the verb. In this way, the difference between two types of double agreement dialects (represented by East Netherlandic and Lower Bavarian) can easily be described.

In the final section I have tentatively discussed clitic placement in a postlexicalist approach. I have proposed that clitics are generated in  $X^\circ$ -specifier positions. Two factors may be relevant to the position of the clitic at the Spell-Out point: stranding vs. pied piping of the clitic under functional head movement, and raising of the clitic to a higher  $X^\circ$ -specifier position in the same morphosyntactic complex. The postlexicalist approach makes it possible to maintain that clitics are at the same time morphologically dependent and syntactically independent.

## VIII

### CONCLUSION

At the end of this study, I would like to briefly summarize its main points.

I have argued against the traditional (generative) hypothesis that Dutch is a head final language. With the exception of the VP, all projections with a lexicalized head (i.e. all lexical projections and CP and DP) are clearly head initial. The VP looks head initial because the verb follows objects and Small Clause predicates in embedded clauses. I have argued that there is reason to believe that objects and Small Clause predicates in embedded clauses are in derived positions.

There is no evidence that functional projections in Dutch are head final. I have argued that the position of clitics suggests that there are functional heads other than C to the left of VP in Dutch. The relevant observations appear to indicate that the sentences of Dutch have a regular, head initial phrase structure.

The traditional analysis of verb movement in Dutch makes two crucial assumptions which now appear to be no longer tenable. First, it was assumed that in embedded clauses, finite verbs move to the right and adjoin to INFL. I have argued that no evidence for this rightward verb movement exists. Second, it was assumed that in main clauses (both subject initial main clauses and inversion constructions) the finite verb moves to C. I have argued that this assumption is correct only for inversion constructions, not for subject initial main clauses. In subject initial main clauses, I have argued, the finite verb moves to a lower functional head, AgrS.

The analysis I have proposed assigns designated licensing positions to the subject (Spec,AgrSP) and the object (Spec,AgrOP). The verb is spelled out in its base position (in embedded clauses), or in AgrS (right adjacent to the subject, in subject initial main clauses), or in C (to the left of the

subject, right adjacent to whatever is the first constituent (in inversion constructions).

The analysis therefore prompts the question of what is the system behind verb placement in the various constructions. Especially relevant is the question of why the verb does not move to AgrS in embedded clauses.

The observations made in this book and elsewhere suggest that languages and dialects that display the verb movement pattern of Dutch (asymmetric verb movement) are characterized by movement of the functional head AgrS to C in embedded clauses. AgrS-to-C movement has been proposed independently to account for the phenomenon of complementizer agreement present in many Continental West Germanic dialects. All complementizer agreement dialects show the verb movement asymmetry. Moreover, when a complementizer agreement dialect (like Frisian) happens to have embedded verb movement (in circumscribed constructions), complementizer agreement disappears.

This has led me to propose the following. In embedded verb movement, the verb ends up to the immediate right of the subject, just like in subject initial main clauses. We may therefore assume that embedded verb movement is movement to AgrS. The observations then indicate that AgrS-to-C movement and V-to-AgrS movement are in complementary distribution. Since subject initial main clauses lack a CP-projection, AgrS-to-C movement cannot take place, and the verb moves to AgrS, apparently as a Last Resort operation.

I have proposed the following explanation for this verb movement pattern. Building on proposals in Chomsky (1995), I have proposed that verb movement consists in two operations, which generally cannot be distinguished. The first of these operations moves the formal features of the verb (the verb's F-features) to a functional head. The second operation moves the lexical-categorial features of the verb (the verb's LC-features) to the same functional head. The result is a morphosyntactic complex containing both the verb's F-features and the verb's LC-features. A postsyntactic component Morphology spells out this morphosyntactic complex as an inflected verb.

The two movement operations (F-movement and LC-movement) have fundamentally different triggers. F-features are attracted by a functional head, in order to check the functional head's features. (I have argued that the moved F-features in fact assign a feature value to the functional head.) This movement operation serves to yield an object that is interpretable at LF. LC-features move only to make sure that the F-features are not stranded in a morphosyntactic complex without LC-features. A morphosyntactic complex without LC-features cannot be interpreted by Morphology. LC-movement therefore serves to create an object that is interpretable at PF.

In embedded clauses in Dutch, the F-features of the verb are attracted by AgrS. The F-features therefore move from V to AgrS, adjoining to the intervening heads AgrO and T along the way. In addition, AgrS-to-C movement takes place (possibly because C attracts T, which is part of the head adjunction structure in AgrS). As a consequence of AgrS-to-C movement, the F-features of the verb end up in C. In embedded clauses, C is occupied by a lexical complementizer. Therefore, the complex in C has the required LC-features and can be interpreted by Morphology. The result turns out to be a complementizer that agrees with the verb, in the dialects that happen to have a paradigm of inflected complementizers.

Notice that there is no need for movement of the LC-features of the verb. The F-features of the verb are not stranded in a morphosyntactic complex without LC-features, and no Last Resort movement is called for. The verb is therefore spelled out in its original position, V.

In subject initial main clauses, no CP level is projected, and no AgrS-to-C movement takes place. The F-features of the verb, again attracted by AgrS, now end up in a morphosyntactic complex without LC-features. The LC-features of the verb therefore move and adjoin to the complex in AgrS. As a result, the verb is spelled out in AgrS.

Finally, in inversion constructions, the CP level is projected, and therefore AgrS (containing the F-features of the verb) moves on to C. However, since C is not lexically filled (there is no complementizer in inversion constructions), the LC-features of the verb again have to come to the rescue. As a result, the verb is spelled out in C.

This analysis of verb movement in Dutch falls out from a more general discussion of the relation between syntax and morphology (chapter V).

Following Halle and Marantz (1993), I have argued that words, in the syntax, are made up of bundles of two types of features: the F-features and the LC-features. A third type of features, the phonological features, are added only after the syntax, in the PF branch of the grammar. The relevant component adding the phonological features, Morphology, has access to the Lexicon (in particular to the inventory of lexical items and inflectional paradigms). Morphology takes morphosyntactic head adjunction structures as input and yields a form from the Lexicon that is interpretable by the articulatory-perceptual interface (cf. Chomsky 1993:2).

This organization of the grammar turns out to be particularly relevant to our understanding of the relation between verb movement and inflectional morphology in Dutch and other Continental West Germanic dialects.



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<sup>1</sup> Surnames containing *de/den, te, or van(den)* are listed under D, T, and V, respectively.

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